IDENTIFICATION AND UNDERSTANDING OF THE CULTURAL LANDSCAPE OF ARABIA

CASE STUDY: 'Asir Region in the Kingdom of Saudi Arabia.

ALI YAHYA ALI ATWAH

Ph.D Thesis

Department of Architecture

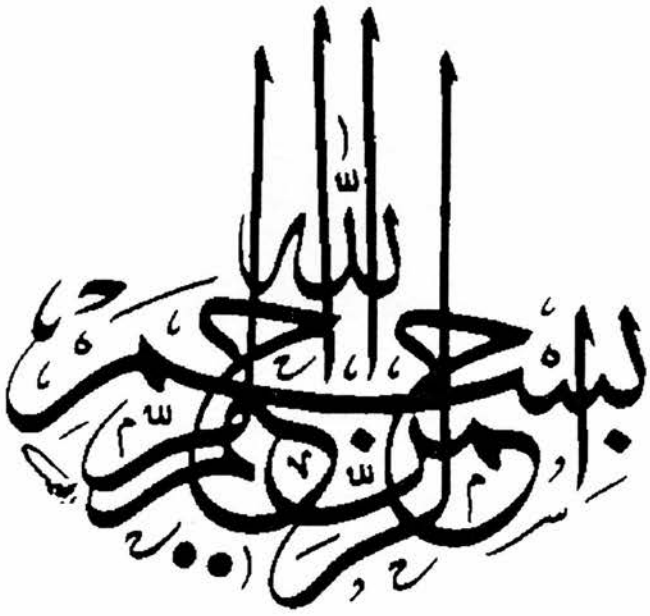
University of Edinburgh

August, 1992

DECLARATION

This thesis has been composed by myself and is my original work.

Ali Yahya Ali Atwah



In the name of God, Most Gracious, Most Merciful

ABSTRACT

Due to the recent - and rather rapid - developments in Saudi Arabia, there is a serious lack of understanding and appreciation of the cultural landscape. This research discusses and develops a method of evaluating and understanding the cultural landscape in Saudi Arabia, based on the indigenous usage of the environment. The initial cause for this study is the conflict that emerged between new imported planning systems - brought about by the process of `modernization' - and the culture and behaviour of the natives of Arabia. The major aim was to look at the problem from a different perspective, that of a native, towards the establishment of a more culturally-authentic model.

In order to achieve the goals of this thesis, a series of studies were undertaken: first, the theoretical background related to the main issues of this study is reviewed and the issues defined according to Saudi Arabian beliefs, values and way of life. This is followed by the evaluation of a selected case-study - the 'Asir region as a potential cultural landscape site - through the course of its development. To conclude, a number of recommendations are put forward for the use of native landscape architects, environmental-preservation agencies, managers and policy makers as a planning tool.

This research is mainly concerned with a very particular field of landscape architecture; that of cultural landscape. Accordingly, the organization of the research is aimed at handling a gradual introduction to the subject of cultural landscape as represented in chapter one. It discusses the problem as dealt with in the research, the aims and the reasons for selecting 'Asir region as a case-study and so forth. It also deals with one of the main models of cultural landscape assessment - Melnick's model - as a preliminary step towards identifying available assessment models and planning tools for the use of this research.

Chapter two deals with the main landscape assessment models available in literature. These are dealt with as general landscape assessment models, regardless of whether they include a discussion of `culture' and history of the landscape or not. The aim of the chapter is to evaluate the suitability of utilizing any of these models for the proposed case-study. It also aims to evaluate of the possible application of these models.

Chapter three presents the historical background and the geographical setting of the study area of 'Asir Region. It introduces important information about the area in order to set the stage for more detailed research of its cultural landscape, the main goal of this thesis. Chapter four deals with the implementation of the modified model of cultural landscape assessment - as proposed in chapter two - on the selected sites of 'Asir region. It aims at determining the validity of this analytical model for use is the particular context of the case-study, and the extent to which its application can meet the goals of the research. Chapter five is intended as a closer look at one case study where a straightforward application of the proposed assessment model is undertaken. A set of recommendations to assist in a closer and perhaps a more accurate understanding of the Arabian cultural landscape to guide it's preservation and management in future is established. These planning and management policies should, upon application, attract a number of inhabitants to participate in a national effort to preserve and protect the cultural landscape of 'Asir as well as other endangered cultural landscapes in Arabia.

Chapter six presents the conclusion of the thesis. It summarizes the validity of applying the proposed model of cultural landscape assessment to the case-study. It also expresses the benefits of adopting this approach to identify and understand the cultural landscape of Saudi Arabia as a whole. The chapter also presents the advantages and limitations of the model and its validity as a planning and management tool for the assessment of the cultural landscape.

ACKNOWLEDGEMENT

Praise be to God, Lord of the worlds, by His will the accomplishment of this study was made possible; and may His blessings and peace be upon His Prophet Muhammad.

To my parents, my brother and sisters who gave me every minute of their time, every penny they owned, and every advice they could spare, no written word could do you justice, I pray The Most Generous to reward you.

To my patient and sincere wife, who bore with me through the hardships and downs of life during the course of this undertaking, I am grateful, thankful and extremely indebted.

I am indebted to ***Umm Al-Qura*** University of Makkah, Saudi Arabia, for granting me the scholarship that enabled me to pursue my postgraduate studies. The generous and appreciative help of the Deanship of the Collage of Islamic Architecture in the university will always be remembered.

Thanks are also due to the Saudi Arabian Educational Office in the United Kingdom for their continuous guidance, supervision and help throughout the course of my stay in Edinburgh. My gratitude extends to those who helped me directly or indirectly to achieve the goals of my field trip in the Kingdom of Saudi Arabia, especially the governmental agencies and personnel in the regions of 'Asir and Abha.

I would particularly like to acknowledge the help of the following people without whom this work would not have reached its present form:

On top of this list, I would like to express my thanks, appreciations and utmost gratitude to Mr Seamus Filor for his patience, supervision, encouragement, open-door policy, guidance and invaluable advice during the preparation of this thesis.

I would also like to express my appreciation of the sincere co-operation of the Architecture Library and the inter-library-loan staff of Edinburgh University in obtaining a large variety of useful references, books and articles during the developmental stages of this study.

Finally, my appreciation and thanks goes to my colleagues and friends of the department of Architecture at the University of Edinburgh, Faculty of Social Science, for their continuous support, encouragement and, above all, the good times we had together in Edinburgh.

This work is dedicated to my parents, my wife and my children: Wajdi, Essam, Wissam, and Doa'a .

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

Introduction:

The study of landscape have long been confined to components of the land, its topography, historical and archaeological features and natural habitats, trees and woodlands. These were believed to hold the aesthetic values of any given landscape, evoking reactions of pleasure and awe from viewers. In other words, the term `landscape' was mainly concerned with the appearance of land as its main characteristic and value. Other scientific fields were assigned the tasks of defining the role of man on the land, history of settlements, development and decline of cultures, establishment of traditions and so forth. The intrinsic beauty of the land would most certainly be of lesser importance to the researcher in these fields. Increasingly, however, the strong relationship between cultures and the land on which they emerged is now the concern of landscape architects, environmental scientists and other concerned parties.

The human impact on the land in time and space is now one of the main issues of landscape studies in what has become known as the `cultural landscape'. The assessment of the quality of a given landscape ever since this term was coined by the US National Park Services[1] includes the analysis of the historical development of a given area as recorded on the land by signs of past human existence. These are the features of the land most likely to link us today with our traditions, and covers the landscape with further layers of significant meanings, in addition to the value of `beauty' on its own.

This, however, does not exclude landscape studies from a concern with physical factors such as geology, geomorphology, climate, soil type, and plant communities. Although views and scenes still rank amongst the fine features of the landscape, it is the inter-relationship between the features of the land and the impact of

its dwellers over time which is added to the analysis of landscape studies. They add a touch of history and of humanity to the already established features of landscape.

This research is mainly concerned with this particular field of landscape architecture. As discussed later in the chapter, this should not imply any deviation from the field of landscape studies, for it still involves the three major stages essential for undertaking any assessment of landscape: a- The selection and survey of potential areas of development or conservation; b- analysis of the potential of the landscape, c- and finally the establishment of proposals or management policies.

This chapter is the first step towards implementing these three stages. It is divided into three main parts. Part one deals with the introduction of the problem to be examined by this research. Part two deals with the aims of the research, the reasons for selecting the 'Asir region as the case-study, and an introduction to the field of cultural landscape. Part three deals with an examination of Melnick's culture landscape assessment model as a preliminary step towards identifying available planning tools for use in this research. It ends up with a set of proposed policies the aims of which are to provide the planning authorities in the Kingdom with new ways of looking at the cultural landscape of the region.

PART I:

Identification of Problems

The problem dealt with in this research is that of the traditional agricultural region of Arabia, mainly located to the south-west of the country. This region is today facing an unprecedented number of forces of change that are too rapid and too powerful to redirect or slow down. Small villages turn into towns almost overnight, native architectural models are replaced by eclectic styles, farmers are becoming

landlords, hiring non-natives to do their long-held traditional modes of labour, and the face of the whole region is losing its original character by the hour.

This research was initiated by an awareness of the danger of such rapid changes that other Saudi Arabian regions have faced in the past 25 years, the result of which has been a total loss of history, culture and national identity. This impact was not altogether as negative as these paragraphs may convey, for the introduction of modern technology and advanced planning and management techniques to the country has helped place the Kingdom into the forefront of developing countries. The worries here are all directed towards the side effects of the changing modes of social organization, socio-economic changes and foreign influences that are replacing indigenous cultural values.

The traditional settlements of the region of 'Asir - as discussed in this research- have evolved over hundreds of years and are immediately recognizable in ways that modern Saudi cities are not. The new trends of development that these towns and villages are adopting threatens the region with a fate similar to that experienced by other areas of Arabia, where a clear lack of identity and character is most likely to be the final outcome. This phenomenon is seen not only in expanding urban areas, but also over the entire landscape of the southern region of Arabia. The market forces of trade, economics, and profit, and the technologies to master uncertainty and create security of supply are the imperatives driving the development of this region and thus encouraging its inhabitants to follow suit.

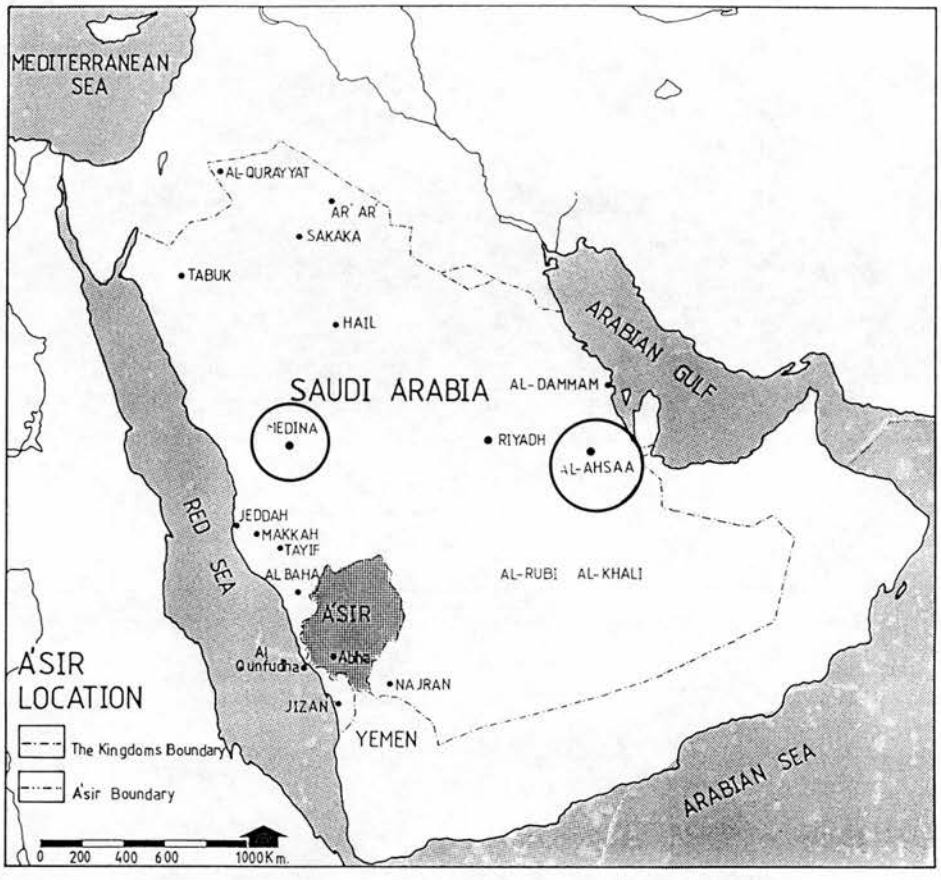
PART II:

1- Aim of the study

The study aims at an understanding of the notion of cultural landscape in general through the analysis of the various literature in the field. Examination of the available landscape assessment models provides the grounds for a scientific landscape assessment framework by which the research can proceed to further stages of application. Once these models are examined and their suitability for the research determined, potential case-studies within the region of 'Asir will be located. This will then be followed by a direct implementation of the assessment model to identify the landscape components which define the cultural characteristics of the 'Asir region. The next stage is the evaluation of the selected case-studies. This should help in the preparation of a set of recommendations directed to modern Saudi landscape architects, environmental-conservation agencies, managers and policy makers to use as a planning and management tool.

2- Why this particular region?

As discussed later in the research, cultural landscapes can be studied at many scales, ranging from the single element of the landscape mosaic to an entire region. The decision to study this particular region of Arabia stemmed from a number of reasons: First of all, within the limited potential cultural landscape regions in the kingdom there are three obvious choices: The region of Al-Madinah, the region of 'Asir, and the region of Al-Ahsaa (figure **1.1**). Al-Madinah was dismissed because most of its potential sites have been totally replaced by modern developments. There, regrettably, complete traditional agricultural fields and settlements have been wiped off the map of Arabia for ever[2].



(Figure 1.1) The Kingdom of Saudi Arabia

The second choice was that of the 'Asir region, an area which exhibited from the very beginning great potential as a prime vernacular landscape. Being the subject of many recent governmental plans for protection and development, it is probable that the region may suffer a fate similar to that of Al-Madinah. First impressions seemed to prove this wrong, for large areas of the region were designated as protected zones or ***mahmiyyat*** (***n.pl. mahmiyyah***) where no traditional houses are to be demolished, no animal hunted for pleasure, and severe restrictions put on further un-planned and un-monitored development. The development of national parks and other tourist areas have however been designed by foreign firms who were not familiar with the culture of the region. At present, a number of ministries and governmental agencies are involved in the development of the region, these are summarized as follow:

Governmental Agency	Responsibilities
Ministry of Agriculture and Water	* Responsible for overall development and administration of Matters concerning Fishers, Forests and National Parks.[3]
Ministry of Interior	* Keep the security of coastlines of the Kingdom (against Poachers), Forest and National Parks against vandalism, and fire hazards; * Protects the "protected areas" and other ares restricted for fishing, hunting, tree-cutting, and camping; * Implements the covering 'closed hunting' and 'fishing season', prohibits certain land-uses and so on.
Ministry of Labour and Social Affairs	* Issues licences for non- Saudi farmers and fishermen and their co-operative societies and supervises their functions.
Ministry of Finance and Economy	* Maintains statistics covering the imports and exports of fish, meat, agricultural products, and statistics covering the labour force, building material and so on.
Ministry of Municipality and Rural Affairs	* Builds fish and agricultural markets and supervise the marketing activities; * Overall planing of the various regions of the Kingdom, and implementation of development plans; * Assessment of development possibilities; * The division of certain regions into clusters, the aims of which are to handle matters concerning the maintenance of governmental projects, protected-areas, building regulations and so on.
Ministry of Information	* The promotion of tourism in the various regions of the Kingdom which involves the studies and publications information about potential areas; * Management of information centres in tourist areas like National Parks.

Saudi Arabian National Centre for Commerce and Technology	* The aid of various governmental agencies by conducting research on their behalf concerning potential development plans for forest preservation/conservation of historical sites, natural resource areas and so on.
National Commission For Wildlife Conservation and Development	* The development of plans for environmental protection and wildlife development.

(Table 1.1) Ministries responsibilities

Furthermore, the 'Asir region, as a result of governmental projects, has become more popular for internal tourism in Saudi Arabia. This has meant a large influx of urban population into an otherwise very rural and traditional environment. The natives of 'Asir are exposed to a supposedly common Saudi culture. In fact this exposure has taken place only in a number of settlements in close proximity to the main attraction areas (i.e., national parks), as discussed later in the research .

So far, large areas of this region are still holding fast to their traditions and culture. Thanks to its geographical location, the region of 'Asir was always almost overshadowed by the Hijaz region in the north and Yemen in the south, the two most celebrated parts of Arabia. In recent times this overshadowing has been further increased by the Eastern region of Saudi Arabia, which is rich in petroleum productions, and by Najd or the Central Region where Saudi sovereignty was first established. Deprived of historical and modern importance, 'Asir thus lies in a dead corner of the main course of modern development in the Arabian Peninsula. The ruggedness of its topography caused even more difficulties, and has delayed the process of improving the infrastructure needed for development. The consequence of this obscurity and neglect is three-fold:

- The lifestyles of 'Asir were and still are very traditional, conservative and unique.
- 'Asir was, and still is, not attractive for large scale private economic activity.
- Scientific attention was not drawn towards the region because of the remoteness of the area, and its inaccessibility, due to the anarchic situation before Saudi rule, and the policy of keeping foreigners out until the 1950s.

These factors, collectively, generated the choice of 'Asir, and eliminated the third choice, Al-Ahsaa region. This area, for the time being, is still untouched or at least not threatened by rapid development and the massive socio-cultural changes experienced by that of 'Asir.

3- What is Cultural Landscape?

`Cultural landscape' is a term that is self explanatory. It consists of two words: the first -culture- is to do with people, their norms, values, habits, activities, and so on[4]. The second -landscape- is to do with land, ranging from a small field to the whole universe, and is connected to shape, form and other natural features[5]. The term, therefore, deals with the influence of mankind on nature through the course of history. In the past, pre-Industrial revolution landscapes were working environments. There was a strong relationship between land and human settlement. The land produced the food and raw materials for the settlements, which in turn returned the by-products to the land. The result of this interaction between man and nature was the creation of distinctive regions in various parts of the world, whose inherent natural character was shaped into a cultural landscape by human activity over generations. The landscape, in turn, drew its distinctive sense of place from the underlying natural patterns of the land.

The most interesting characteristics of a given landscape today are - most likely - the result of man's historic modifications of the land. Vernacular, traditional or indigenous forms of settlements have richly dramatized the differences inherent in the

natural patterns of the land. Together, cultural and natural history thus combine to create varied and rich landscapes. The following is a collection of definitions of the term `cultural landscape, as seen by a number of scholars. The reader will notice that there is an agreement amongst researchers in the field, that cultural landscape is based upon an area of **LAND**, modified and altered by **PEOPLE**, through the course of **TIME** which determines the duration of the alteration process.

Robert Z. Melnick[6] (1984) sees cultural landscape as the "*landscape of heritage.*" He defined the latter as natural places which are taken for granted, yet are usually unrecognized, misunderstood, unprotected, and mismanaged. He sees cultural landscape as a tangible representation of human intentions and actions on the natural environment, and encompassing every aspect of the environment that has been changed by man. According to Melnick, cultural landscapes, reflect the changes in human beliefs, available technologies, and forces external to the culture that produced the landscape. Cultural landscape derives its primary significance from particular historic periods, alterations or additions. It is then best described as "complex human ecological systems existing within equally complex natural ecological frames," with the added significance that is represented by the manipulation of those forces by people.

Knut (1988)[7], sees cultural landscape as the modified part of nature, Lewis (1975)[8] defined it as nearly every thing seen in the environment. Michael Hough (1990)[9] expresses his view on the cultural landscape as the landscape forms that are the result of practical needs of the inhabitants of a given place, and those resulting from the constraints of site and climate. Therefore a cultural landscape is any area of land that has responded to cultural and natural forces and resulted in the emergence of a very different landscape, spatially, visually, and emotionally. Zelinsky (1973)[10] sees cultural landscape as any place where people have settled, lived, altered, and developed. Again in his definition, the factor of time is of vital importance in determining the range of impact by many generations on the landscape. Kevin Lynch

(1976)[11] refers to cultural landscape as certain parts of the land who's forms were derived from the limitations of agricultural and building technology, native materials, climate, soils, and established tradition. Finally, the U.S. National Parks Service has defined cultural landscape as "A geographic area, including both cultural and natural resources, including the wild life or domestic animals therein, that has been influenced by or reflects human activity or was the background for an event or person significant in history".[12]So to summarize; Cultural Landscape can range from the everyday working to sites of major heritage significance, such as prehistoric settlements or battle fields. The emphasis of this research, however, leans towards the too often disregarded everyday landscapes, to understand their significance, and to examine ways in which they can be protected.

PART III:

How to Deal With Cultural Landscape Assessment?

Landscape assessment in general can probably best be understood as a series of stages. The term `Landscape assessment' is an umbrella term to encompass all the many different ways of looking at, describing, analysing and evaluating landscape. Landscape description refers to the portrayal or description of what a landscape looks like. The overall scene can be described by using geographical or ecological terms or by reflecting personal reactions to landscape by the use of such words as `bleak, inhospitable, boring or comfortable.' Landscape classification is a method of sorting the landscape into different types and can be a tool for landscape description. A classification does not attach any weight or judgement as to the differences between different sorts of landscape. Landscape analysis breaks a landscape down into its component parts so as to facilitate a proper understanding of how it is made up. `Appraisal and evaluation' are terminologies that are used for processes whereby landscapes usually broken down into component parts or elements are weighed against

particular criteria so as to be given a particular value for a particular reason, either on the basis of professional judgement or public reaction, thus terminologies like `landscape preference' refer to people's inclination towards one landscape over another, while the term `landscape appreciation' is usually applied to the consideration given by someone with a trained awareness particularly in aesthetics.

Studying cultural landscapes is a process of recognizing how people use different places to fulfil practical needs of living. This in itself is the first step towards a better understanding, as well as enhancing the distinctive sense of place of a given locality. The assessment of cultural landscape has to do with two essential and basic criteria: firstly, it has to do with the natural processes of the locality as far as its natural characteristics are concerned; secondly, it has to do with the social processes, as far as the input of people on the land is concerned. This would include the analysis of the way people adapt to their living environment; how they change it to suit their needs; and how they manipulate and modify the land to make it their own. This should result in a clear understanding of the particular identity of a given landscape, which, in turn, would reflect the collective reaction of people to their environment through the course of time.

To begin any assessment exercise, one must seek out the essential characteristics of that place by wandering through it, preferably on foot, meet with the inhabitants, and read something about the background of the place in order to understand its patterns of movement, its social dynamics, history and traditions, its environmental possibilities. Therefore, any attempts to evaluate, assess, develop, or establish any sort of planning guide-lines for conservation and protection must begin with a prepared tour of the place. This tour should allow for the discovery of long-gone historical evidence of a physical or social nature, for even if a place's identity is destroyed, there are always elements of the original landscape that remain, sometimes deeply buried beneath the new. Land-form, remnant native plant

communities, an old hedge, a barn, old paving stones, all these will communicate to the researcher their natural and cultural origins and changing uses[13]. At the end of the day, the task of a landscape manager, policy maker, an interested agency, or a landscape architect is an attempt to establish the identity of the landscape in question based on such environmental clues[14].

Maintaining a sense of history within a given landscape is another factor that has to be present in the process of the assessment. A researcher, designer, manager or a policy maker does not have to create a place anew. He will most likely find himself drawing from rich historical and cultural resources that are particular to that place and indigenous to it. Design by nature inevitably involves building on what is there on the landscape. However, the protection of the natural and cultural history lies at the heart of maintaining a continuous link with the traditions of the landscape and with its natural and original identity.

Getting people - especially the inhabitants of the landscape - to be aware of their heritage is another vital task that must be undertaken by policy makers and landscape managers. Environmental literacy lies at the heart of understanding the places with which we are familiar, and thus at the heart of the issue of identity. It is necessary for people who live in and use these places, indeed places of any kind, to know the potential value of the environment around them. An awareness of place can only be enhanced when it becomes a part of people's everyday lives so as to lend places and people, as well as objects and artifacts, their meanings.

The process of generating change from within, that is getting people to protect their own environment should be, according to Kevin Lynch[15] be a major undertaking. Doing as little as possible, or economy of means as he puts it, involves the idea that from minimum resources and energy, maximum environmental and social benefits would be achievable. The greatest diversity and

identity in a place often comes from minimum, not maximum interference. This does not mean that governmental planning and design agencies are unnecessary to a world that if left alone would take care of itself. It implies, rather, that change can be brought about by giving direction, by capitalizing on the opportunities that site or social trends reveal, or by setting a framework from which people can create their own social and physical environments and where landscapes can flourish with health, diversity, and beauty.

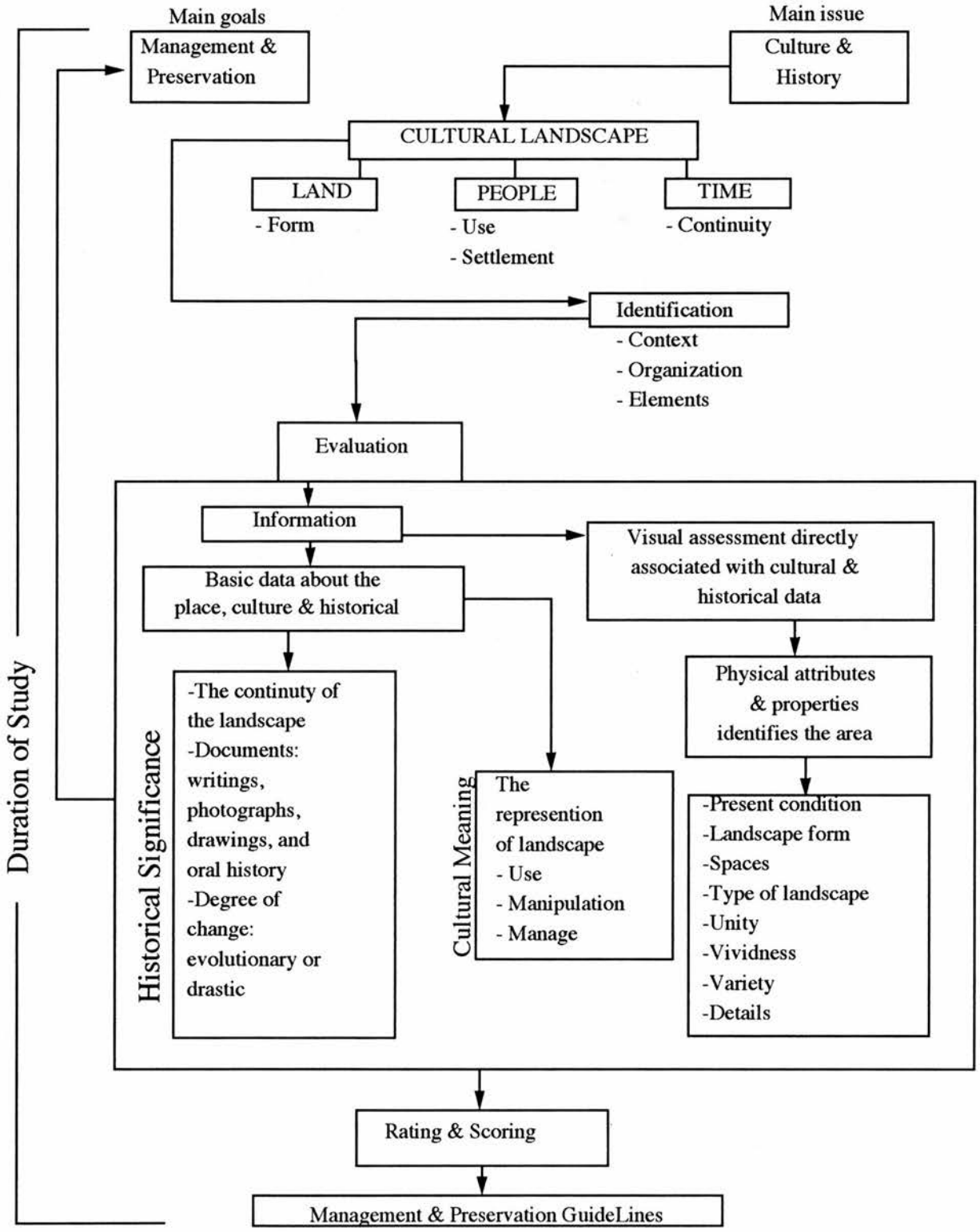
The task of finding value in rural cultural landscape, such as the one in question, obviously challenges the conservation community. Future generations will have to face the prospect of seeing and knowing little or nothing of the way in which the land of 'Asir was used by their forebears. There is little doubt that the changing cultural landscape of 'Asir will continue to be altered, that it would be infantile and unrealistic to suggest that everything old is also good, and that all change must be stopped. On the other hand, one cannot say that what is happening in 'Asir today is acceptable, and because we have the technology today to develop, this should not be associated with a similarly capable spirit to deny the past, or an attempt to recreate or imitate it superficially.

The following part of the chapter is assigned to dealing with one of the techniques developed by a pioneer in the field -Robert Melnick- which was originally used by the United States National Parks Service for the assessment of potential parks and historical sites. At an early stage this research applied this model to a set of slides from selected localities within the region of 'Asir. The aim then was to test the validity of applying Melnick's cultural landscape assessment model to landscapes that are physically and culturally distant from those of the United States. So what began as a demonstration of one way of `capturing the cultural landscape,' to use Melnick's terminology, developed into an examination and evaluation of the model. This was later contrasted with other assessment models used world wide. The aim of the latter

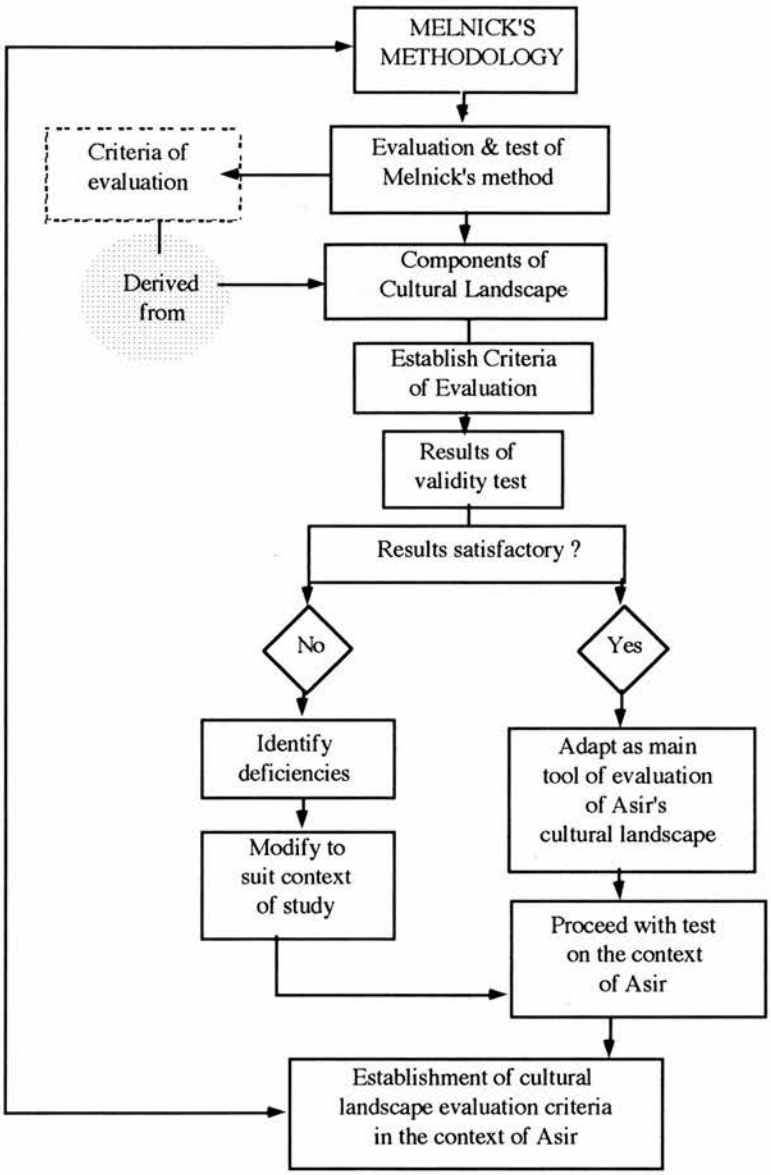
exercise was to develop an awareness of the existence of various methodologies of dealing with culture landscape, and the points of strength or weakness of each of these models in accordance with the definition of the term `landscape architecture.'

Melnick's model was, at the time of conducting this research, the only model readily available in literature that was designed to capture, assess and manage a cultural landscape. Such an evaluation method is vital to the treatment of the topic of this research, especially if one bears in mind the extreme similarities between the needs of the USNPS and that of the Saudi government's recent attempts to establish national parks in the 'Asir region. Since the context of this research is of a completely different location, tradition and culture from that which Melnick's methodology was developed from, there must first be an attempt to develop a set of criteria aginst which to gauge, and establish the validity of Melnick's methodology as a research tool. If Melnick's methodology of evaluating cultural landscapes can be proved to be applicable to different contexts and particularly that of the 'Asir Region in Arabia, it would then be feasible to adapt it as the tool of landscape assessment throughout this research (a representation of this experiment is shown in Appendix A , page 318).

The following figure is a reproduction of Melnick's model and the procedure followed by this research to evaluate and test his model against a set of proposed criteria. Figure **1.2** shows the model designed by Melnick, while figure **1.3** summarises the research's examination procedure.



(Figure 1.2) The Summary of Melnick's Approach



(Figure 1.3) The Process of Evaluating Melinck's Methodology

The following criteria were extracted from the various papers written by Melnick, in which he dealt with the subject of cultural landscape, its definition, the pre-requisites of dealing with the topic, its limitations and so on. These were then classified into ten categories or criteria that either Melnick' model - or any other assessment model for that matter - should comply with or at least satisfy the majority of in order to be considered. The remainder of this chapter mainly discusses the objectives of the ten

categories, with only a brief concluding examination of their application to 'Asir. This aspect will be more fully studied in the next chapter.

CRITERION NO.1

*** A study of cultural landscape must address significant cultural issues of human use and alteration of that landscape. A researcher should understand the lifestyles of the culture in question as a response to the natural setting of the landscape, and therefore contributing to the shaping of the land.**

Melnick's evaluation distinguishes a cultural landscape by the evidence of the existence of areas of farming, mining, ranching, fishing or any other activity which have been the result of a settlement, use, alteration and change over the years by many generations. Continuity of use is emphasized and the identification of human input and the type of use -which leaves evidence of one generation passing down to another- are also significant reminders of the past of that landscape. The lifestyles of 'Asir farmers are clearly a response to both the natural factors - climate, land-form and soils in particular -, and their region, particularly in respect to women.

CRITERION NO.2

*** A cultural landscape is identified by the existence of physical evidence and reminders of human settlement on the land under study, regardless of the type of activity. What is important is the range of human input on that land. Continuity of these activities and the length of time are vital symptoms of a cultural landscape and are the major tools of identifying the history of the landscape.**

The factor of time as a major component of the cultural landscape is categorized by Melnick under the term 'historical/natural landscape'. Although the distinction between cultural and natural landscape are not made obvious in his methodology, yet the emphasis that cultural and natural landscapes are made up of material components which show the result of continuous human occupancy, clearly signifies the role of time as the common factor between the two overlapping types of landscapes. Therefore, the definition of the cultural landscape recognized by Melnick as worthy of study and recognition could be cited as:- **cultural landscape = material components reflecting non-material aspects of the cultural group involved.** For example, the existence of physical evidence in the 'Asir region of continuous human settlements like mud-houses and terraced-mountain slopes is enough to suggest that there existed certain land-uses and man-made modification to the landscape, which in turn point to strong connections between people and their land.

CRITERION NO.3

*** A cultural landscape is identified and recognized by the material components which reflect non-material components. The identification of one of these would lead to the recognition of the other. Therefore, the study of cultural landscape must involve the study of physical and non-physical elements which combine to lead to that landscape.**

Material components could be studied for their style, character, physical properties, and measurements, whereas the non-material components like culture, could be studied in terms of their influence upon material components[16]. The influence of non-material components exerted upon the material evidence showing as physical evidence on the land are indicators of the amount of change and alterations of the occupants and their cultural activities. An example of this criterion from the 'Asir region is represented by the fact that some physical evidence (like the ruins of a house) could

be further supported by various cultural meanings that are associated with this house (e.g. the death of the Sheikh of the tribe in that place).

Scale is almost unlimited in the methodology of Melnick, which makes his study applicable on areas larger than national parks, where the methodology was first developed. An extra emphasis is given to the relation between different scales of interrelated cultural landscapes in the same area which combine to gave a sense of wholeness to the entire landscape. This should then lead us to the establishment of the fourth criterion:

CRITERION NO.4

*** A cultural landscape is not bound to a certain scale; different sizes and scales of cultural landscapes existing within the same context are of importance to the researcher as the relation of different scales and various components to each other, might hold important data for the identification of cultural landscape.**

The level and type of change over the cultural landscape as seen in Melnick's methodology are of vital detail and precision. The division of the degree of *change* into `incremental' and `drastic' is an important and valid tool of Melnick's methodology. The evaluation and recording of the degree, amount and type of change needs special management decision. Whether natural or man-made, these are significant indicators of action taking place at some parts or in the entire landscape and can lead the researcher to conduct further investigation, rather than depend on visual assessment of drastic and axiom change that might lead to false conclusions. As it is the case in some sites of the 'Asir region, the involvement of the government in the development of tourist areas led to drastic change in adjacent sites and villages. The changes were either caused by economic or physical factors but are mainly reflected on the socio-cultural organization of these effected areas.

CRITERION NO.5

*** Any change felt, seen, heard of or documented for the landscape must be investigated and categorized, whether natural or man-made, whether drastic or re-occuring over a period of time; whether negative change that must be stopped, or positive and must be encouraged.**

Melnick states that in rural areas (such as that of 'Asir region) natural features often dominate the cultural components. Characteristics such as land form, vegetation, soil, suitability for protection against weather, predators, human enemies as well as accessibility, fertility of soil and abundance of other resources are potential considerations in the decision that people take so as to settle in a particular place. On the other hand, social, political, and economic factors which are non-material components are considered by Melnick as 'facts of life' that play a subordinate role to that of material components in determining the fate and shape of a cultural landscape.

Although one can agree with Melnick's first statement mentioned above, yet one feels inclined to disagree with the second part. For example in the 'Asir region, religious beliefs played a much greater role than that of the impact of the Ottoman rule over the area or the seasonal calendar for harvesting and cultivation.

CRITERION NO.6

*** In studying the non-material component of a cultural landscape, documented and historical data are major determinants of the existence of a cultural landscape which is influenced by a complex set of social, political, and economic factors. Therefore, knowledge in the various fields of ethnology, anthropology, cultural geography, economic, ...etc., along with their techniques of investigation are helpful if not required.**

According to Melnick's methodology; the critical factors in investigating the complex relations taking place in a cultural landscape lie in the understanding of material and non-material factors. A change in the landscape is a healthy phenomenon, dynamic and lasting. This change is a critical aspect of cultural landscape and must be encouraged and allowed to continue rather than halting that change. A set of thirteen material components were set by Melnick's methodology that should be identified, then understood and evaluated as a part of what Melnick calls 'the management of change.' The purpose is to identify the landscape and to understand not only the landscape itself, but also the direct and indirect influences of the cultural groups which occupied and formed that landscape. As in the example cited in criterion number three, the study of physical evidence of human existence alone may not suffice to explain the socio-cultural significance of such structures. To come closer to the true meanings behind these, a researcher should have enough knowledge about fields of Anthropology, Ethnology and the like to be able to obtain these meanings from the inhabitants of the area in question.

CRITERION NO.7

These material components must complete the logical sequence of analysis as suggested by Melinck and give equal importance to non-material components in order to fully identify a cultural landscape. They must be touching upon every segment of the definition stated by Melnick in his recognition of the cultural landscape as *land being manipulated by people over a period of time.

In evaluating the cultural landscape, Melnick's methodology once again gives the emphasis to material components. The primary concern of Melnick's evaluation is to explain and understand the landscape as an entity. Accordingly, it seems that non-material components should be given equal evaluation if, as Melnick states: "the set of components within the larger natural setting establish the cultural landscape and any

landscape can be best evaluated as a complete set of component parts," regardless of the techniques suggested by Melnick, whether through written history or through visual assessment. Again, as mentioned earlier, while it is believed that man and the physical environment form one system and that the study of one system would lead to the other, it is important to follow the sequence of analysis suggested by assessment models in order to cover possible layers of meaning behind each step as in the previously mentioned examples of 'Asir.

CRITERION NO.8

***The evaluation of a cultural landscape is similar to the evaluation of a historic structure. Therefore it must begin with selection of criteria, test of criteria and their conclusion. Accordingly, any assessment must follow this sequence with the addition that the landscape should be evaluated as a whole, then each component should be evaluated for its contribution to the whole, and for its own significance. Melnick's evaluation techniques are dependent upon a larger amount of information, and thier is no evidence so far of any alternative being suggested in the case of absence of one or more of the sets of information to the process of evaluation (i.e., lack of documents of historical data).**

Melnick's statement touches on the significance of a cultural landscape and the notion that any assessment of a cultural landscape needs both particular circumstances and unusual opportunities which are uncommon in Western societies (i.e., National park protection). In other words, it must be supported by a serious willingness, proper management and availability of resources for this methodology to be implemented. A cultural landscape may be significant at the local level only and could mean a lot to a very small number of people, but does not have any effect on the region or the nation. In the case of 'Asir, the encountered development plans were initiated by different governmental agencies but are all concerned with the protection of wildlife. On the level

of small villages of 'Asir, the willingness and serious desire for the maintenance of the cultural landscape were expressed by the elderly of these villages. Given appropriate attention, those could be of great help to any conservation scheme for the protection of the cultural landscape of 'Asir

CRITERION NO.9

*** A study of cultural landscape must be initiated by public awareness of the living history of a certain landscape exposed to negligence or deterioration. It should also be affected by economical or political decision. The determination of significance needs to be accomplished through viewing the landscape from a variety of perspectives. Local significance may be greater than regional or national significance because, by virtue of its name, cultural landscape is more closely related or tied to the people who live in it.**

The study of cultural landscape should allow people to be involved in the decision making. Melnick's model, however, depends, as seen in figure **1.2**, on the data gathered at the local level to be more decisive in the evaluation process (i.e., through interviews with the natives of the landscape). Once the decision maker detects a negligence of the traditions of the landscape, the assessment model should not only determine the potentiality of the landscape, but should also convey these values to its inhabitants. This would guarantee that any change or modification to the land should emerge from within rather than being imposed by a non-native of the landscape.

CRITERION NO.10

*** Any system of evaluation should -preferably- state clearly or at least suggest a proper and fair scientific scoring and rating system, so that at least two**

evaluations of the same cultural landscape can agree on the system used in evaluation, basis of judgement and criteria of scoring.

The notion of setting certain values on various aspects of cultural landscape is a debatable matter. Most examined models fall short of presenting an acceptable rating and scoring system. The reader will notice, however, that in chapter 4 (application of the assessment model) involving the natives in the rating of certain aspects of their landscape was not an inefficient means of determining the value of the landscape. Most of what the research valued as potential sites was treated by the locals as sites for everyday use, and was taken-for-granted. The tendency of the inhabitants of the landscape to devalue - or over value - what is unconsciously believed represented another difficulty in establishing a rating system that does not suffer from the involvement of the researcher's own value judgement in the process. However, the adoption of any rating and scoring system falls outside the scope of this research, because the main aim here is to provide landscape policy makers with an adequate assessment model by which to approach, analyse and determine the various values embodied in any given cultural landscape, rather than to rank or quantify them.

Conclusion:

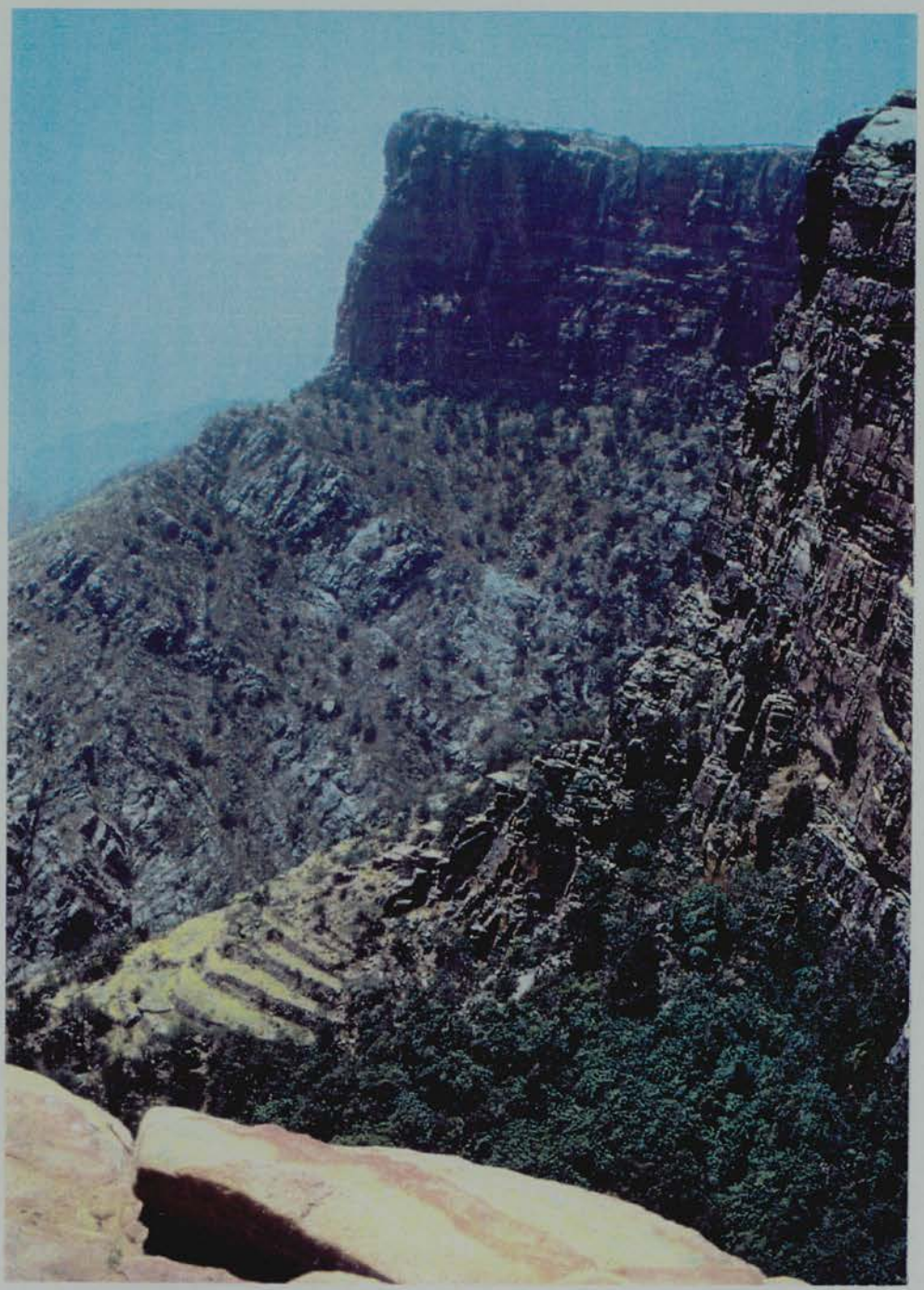
The previous set of criteria, as mentioned earlier, were extracted from Melnick's own papers and research as an authority in the field of cultural landscape. While this fact does not necessarily grant them scientific validity, they proved to be a very practical evaluation tool. The aim was to understand the process of assessment rather than to evaluate Melnick's ideas and techniques. One of the major goals of this chapter is to test the suitability of Melnick's methodology in the context of this particular study. As seen in figure **1.3**, the sequence of this research, to a great extent, is going to depend upon Melnick's procedure with some modifications as discussed in

the following chapter. However, a number of immediate notes are worth mentioning at this stage. They are the following:

1- More emphasis was given throughout the study to material components, although non-material components might reveal more information and explanation to the researcher of many unexplained aspects of the landscape even to a native of the area (i.e., the ropes used by the occupants of '***Al-Haballah***' village in 'Asir, in which the inhabitants of the inhabitants live on the summit of mountains while their daily activities are carried on the bottom of the valleys. Accordingly, if a research encountered these ropes (on which the inhabitants ascend and descend on daily basis to and from their settlement) without sufficient data about the peculiar lifestyle of this village, no logical explanation would be obtained by him (figure **1.4**).

2- The treatment of climatic factors is not fully utilized in Melnick's study as a major factor in identifying the cultural landscape (i.e., the existence of terraced mountain slopes in 'Asir compared with that of China; the same feature, yet for a totally different reason. One for keeping the rain water, and the other for reclaiming extra land or other socio-cultural reasons that are at present unknown.

3- Melnick's methodology does not allow for flexibility to change the assessment results in accordance with the changes that might take place on the landscape during the length of the assessment process. For example, if the size of the landscape being assessed was relatively large, requiring a long period of analysis, the final results might not correctly represent the while picture, or overall value of the landscape. This does not mean that Melnick's methodology was designed to suit either large/small lands or long/short periods of analysis, it simply means that the feed back of information needs to be continuous before a representative value could be obtained.



(Figure 1.4) Al-Haballah Village

4- Although Melnick clearly states that there is no specific system of rating yet developed for cultural landscape, the system which he suggests is not explained in more detail. A number of reasons were given for the difficulty of establishing a system of rating for the cultural landscape, thus leaving the issue open for further debate.

However, it must be borne in mind that the criticism of Melnick's model for landscape assessment presented here is a result of the author's understanding of his thesis. They are not to be considered final or conclusive until other landscape assessment models have been examined. The main aim of the following chapter is to do so, as well as to provide by means of a matrix, the points of strength and weakness of these models. Once this matrix is established, a modified model should hopefully emerge, having most of the advantages of these models and avoiding as far as possible, their main weakness. This modified model can then be used throughout the research for the purpose of examining the proposed case studies in order to establish their cultural and historical values, leading to the establishment of a set of recommendations for future researchers in the field.

[1] Melnick, Robert Z. Cultural Landscape: Rural Historic Districts in the National Park System, A report developed for the US National Park Services, Department of the Interior, Washington, D.C., 1984.
Melinck is a professor of Landscape Architecture at the University of Oregon. He also acts as a consultant for the U.S.N.P.S.

[2] Incidentally, these fields and settlements were either destroyed or abandoned mainly by the inhabitants themselves in order to sell the land for higher prices and start new projects in the larger metropolitan areas of the region This continuous trend, which lasted for about 20 years, resulted from the lack of awareness on the side of the inhabitants as to the lack of planning that characterised the post-oil rush to development.

[3] The Ministry of Agriculture and Water is involved in the development of the 'National Parks' projects around the Kingdom. In the 'Asir region, the Ministry is responsible for the development of Al-Soudah National Park, Al-Qar'aa National Park and Al-Zulfan National Park. Other than these, no specific development plans for the protection and conservation of cultural landscape areas are under consideration by any of these agencies.

[4] Melnick R., op. cit.

[5] Melnick R., op. cit.

[6] Melnick R., op. cit.

[7] Faegri, Knut. "Preface" in Birks, Hilary H., Birks, H. J. B., Kaland, Oeter Emil and Moe Dagfinn (ed). The Cultural Landscape Past, Present and Future, Cambridge: Cambridge University Press, 1988.

[8] Lewis, Beirce F., The Future of the Past: Our Clouded Vision of Historic Preservation, Pioneer America 7, July, 1975, Pp. 1-20.

[9] Hough, Michael, Out of Place, New Haven: Yale University Press, 1990, Pp. 34-58.

[10] Zelinsky, Wilbur, The Cultural Geography of the United States, Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1973.

[11] Lynch, Kevin, Managing the Sense of the Region, Cambridge: MIT Press, 1976.

[12] CRM Bulletin 10:6 Dec. 1987, Cultural Resources Management: A National Park Service Technical Bulletin. US Department of the Interior, NPS, Cultural Resources, Washington D.C.

[13] For example, trees may have been removed for agricultural or other reasons, and they may have been planted to serve such purposes as windbreaks or boundary markers. In some other cases (e.g., farmhouses), the building could have been enlarged or changed functionally as the family grew. Close examination of buildings may suggest family sizes, population densities, commercial activities, and economic fluctuations.

14 For example, Large trees growing near a house not only provide shade but contribute to a sense of place and identity.

15 Lynch, Kevin. Managing the Sense of the Region. Canbridge: MIT Press, 1976.

16 For example, in the study of the methods of food procuring, the means would show a certain type of eating habit; the opposite is true.

CHAPTER II

EVALUATION OF LANDSCAPE ASSESSMENT MODELS

Introduction:

The evaluation section of Melnick's model comprises four parts - geographical position, historical significance, cultural meaning and visual assessment. As demonstrated by the ten criteria discussed in the previous chapter. The first three points can be readily carried out by library study, field surveys or direct interviews. Melnick does not, however, categorize a method for understanding a visual assessment. This chapter therefore, attempts to develop a study model.

A Review of Different Methods for Landscape Assessment

It was stated in the previous chapter, that any system of evaluation must clearly state and suggest a proper and fair scientific scoring and rating system, so that at least two evaluators of the same cultural landscape can agree on the system used in evaluation, basis of judgement and criteria of scoring. It is true that some material components are not quantifiable, yet an introduction of a rating system by a native of the landscape studied, by re-assigning different values to the rating system as a further step, might get the result of the evaluation as close as possible to a fair conclusion. The chapter also concluded with some remarks concerning the rating system introduced by Melnick's methodology of assessment. One of these remarks was that the rating system suggested by Melnick does not lead to consistent conclusions upon which mangers of cultural landscapes can draw. Also it leaves huge gaps for prejudiced judgements and could give false results if the evaluator was a governmental official, an economist or a professional who is a native of the cultural landscape. So the rating system was the most troublesome step amongst Melnick's methods of evaluation, and he concluded that there is no specific system of rating yet developed for cultural landscape.

An objective or even a subjective system of rating and scoring for the assessment of a particular landscape is vital for anybody to draw a conclusion from. It

was previously stated that some non-material components of cultural landscape can not be attached to or judged against a value system. Landscape quality does not imply values because it deals with a record of the degree of aesthetic impression (Hebblethwaite 1973)[1] . In this case, an assessment of quality should be undertaken, instead of an evaluation. Cultural landscape evaluation is a matter of great sensitivity that requires an appropriate rating system which allows for fair and comprehensive results upon which the conservation or management of a historical cultural landscape can be established. Conservation of the cultural landscape is not simply nature conservation, as it requires protection of traditional land-use practices, buildings, walls and other components of the landscape mosaic, and of traditional ways of life.

The primary purpose of this chapter is to present some of the methods that have been used in general landscape assessment (regardless of whether these methods included a discussion of culture and history of the landscape or not). These methods varied from statistical analysis - of values attached to material and non-material components of the studied landscape - to satellites, aerial photography and cartographical office-analysis. Whichever evaluation system used, and whoever used it, it is inevitable that we need to discuss some of these theories and applications for landscape assessment. Theoretical background, criteria for testing and measurement, the representation of real landscape, and legal applicability seem to be the most important factors of the process of assessment.

The **first** part of the chapter is a general review of a number of assessment models. For example, it will deal with the four methods of evaluation suggested by Bechtel (1987) in "Methods in environmental and Behavioural research". Then it will introduce other different models of assessment, like Ian McHarg (1971)[2], R. L. Hebblethwaite (1973)[3], "The Open university Practical Conservation Method" (1988)[4], Ian C. Laurie (1975)[5], and "The Countryside Commission for England Approach" (1987)[6].

The **second** is concerned with the evaluation of these methods (against the ten criterion of evaluation set in the last chapter). The results of this 'validity' test (an evaluation of each of these methods as to the validity of their application for the purpose of this research) is presented in the format of a matrix in accordance with the proposed design process of this research.

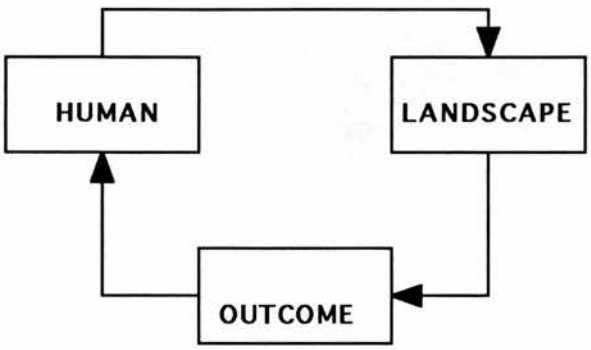
The **third** is a conclusion which will determine the most suitable of the models reviewed for adaptation and therefore adoption for the purposes of this research. According to the proposed design process, each of the evaluated assessment models that satisfies the largest number of the evaluation criteria, will be adopted for its area of strength. In part three of this chapter , the cultural landscape assessment model to be used during this research will be presented in its final shape. Tests of the application of the final model will be carried out in fieldwork, the results of which will be presented in chapter four.

PART I: MODELS OF LANDSCAPE EVALUATION/ASSESSMENT

In this part, a review of a number of assessment models will be presented in order to draw a valid conclusion on the suitability of the landscape evaluation method to be adopted for this research. Such a conclusion will be based on a contrast/comparison between the range of usages of each of the presented models.

The **first** four models to be discussed here are referred to by Taylor, Zube and Sell (1987) in their "**Landscape Assessment and Perception Methods**" as the **Perception models,** which, can be seen to correspond to Melnick's **identification phase.** To start with, a simple model was used by the authors to show the human-landscape interaction process (Zube et al. 1982)[7], which in a way explains the mutual influences and interactive relationships between these components of

nature.(figure**2.1**). This model appears to have a practical application for this study because it suits the very definition of cultural landscape set by Melnick as: *"cultural landscape encompass all that has been altered by man"*.



(Figure 2.1) Interaction process [8]

There are four perception models to explain this set of relationships between man and the landscape; these are: **The Expert, The Psychophysical, The cognitive and The experimental perception models.**

The Expert Paradigm

> ***"landscape perception is an emotional, subjective reaction on the part of the general public, and therefore it is necessary to employ professionals in order to obtain more objective, reliable assessments"*** [9].

This is a method which requires an assessment done by highly skilled observers such as landscape architects and ecologists. It was first developed for the 'U. S. Forest Service', for the purpose of landscape quality evaluation. It depends heavily on formal landscape architecture criteria like **scale, boundaries and edges, land form, plant cover, water elements, and focal attractions.** Zube (1987) argues that an acceptable landscape assessment must either be *"replicated throughout the community, or that the status of the persons giving the opinion must be acceptable"*. Therefore, a team of

inexperienced persons, as Wright (1974) also argues, would not be able to evaluate landscape in an internally consistent manner, in comparison with an evaluation conducted by an expert landscape architect.

In the first paradigm of the expert model, the meaning of human in (figure **2.1**) is defined in terms of an elite group of highly trained, skilled observers who are capable of making value judgments on behalf of society, and being educated. According to Zube, it is also important for the landscape expert to evaluate and judge, either through principles of art and design (such as form, balance, contrast, or points of focus), or through principles of ecology and resource management (such as species, diversity, quality of timber, or lack of evidence of human kind). The outcome of the interaction is the development of an enhanced sense of landscape beauty.

Application of the Expert System:

1- In the United States, for example, one way of rating landscape has been established by Leopold (1969)[10] which leaned towards ecological and human-use factors in evaluating riverscape aesthetics. Leopold's major goals **were to develop a rating system for scenic beauty and to calculate the degree to which a site is unique.** This system used a list of forty-six separate categories broadly grouped under the three areas of:

a- Stream geomorphology

b- Ecology

c- Human use and human interest.

For each category a number from **1** to **5** was assigned, with **1** being the best rating, and **5** being the lowest. As can be seen in figure **2.2**, these numbers tended to be quite specific for most physical and ecological criteria, and giving more value for human factors.

2- Another method of rating was used by Litton (1972) who stressed the appraisal of "visual vulnerability", using four major criteria: **compositional types, feature landscape, enclosure, and focus.** Burke (1975) developed a set of "characteristic landscapes" for his evaluations, using features of **contrast, sequence, axis, convergence, codominance, and enframement.** Details of each feature will be discussed later.

R. B. Litton's (1968)[11] method used a "Form and Mantle" evaluation involving numerical ratings of **land form** and **land use** categories , which when added or subtracted, provides a general scenic rating. Figure **2.3** illustrates the matrix provided by these two dimensions. The total numbers in the matrix cells are the scenic values; where higher numbers are more scenic than lower ones. It is to be noted, however, that Linton's method, that is the classification system, could be used by **inexperienced** people. D. Linton (1968)[12] added some bonus points for the presence of water, for example, in the view, two points for water in the foreground or middle ground, and one for water presence anywhere in upland areas.

Factor Number	Descriptive Categories	Evaluation Numbers				
		1	2	3	4	5
	Physical Factors					
1	River width (ft.) (at low flow)	<3	3–10	10–30	30–100	>100
2	Depth (ft.) (at low flow)	<.5	.5–1	1–2	2–5	>5
3	Velocity (ft. per sec.) (at low flow)	<.5	.5–1	1–2	3–5	>5
4	Stream depth (ft.)	<1	1–2	2–4	4–8	>8
5	Flow variability	Little variation		Normal	Ephemeral or large variation	
6	River pattern	Torrent	Pool & riffle	w/o riffles	Meander	Braided
7	Valley height/width	≤1	2–5	5–10	11–14	>15
8	Steam bed material	Clay or silt	Sand	Sand & gravel	Gravel	Cobbles or larger
9	Bed slope (ft./ft.)	<.0005	.0005–.001	.001–.005	.005–.01	>.01
10	Drainage area (sq. mi.)	<1	1–10	10–100	100–1000	>1000
11	Stream order	≤2	3	4	5	≥6
12	Erosion of banks	Stable		Slumping		Eroding
13	Sediment deposition in bed	Stable				Large-scale deposition
14	Width of valley flat (ft.)	<100	100–300	300–500	500–1000	1000
	Biological Water Quality Factors					
15	Water color	Clear colorless		Green tints		Brown
16	Turbidity (ppm)	<25	25–150	150–1000	1000–5000	>5000
17	Floating material	None	Vegetation	Foamy	Oily	Variety
18	Water condition (general)	Poor		Good		Excellent
	Algae					
19	Amount	Absent				Infested
20	Type	Green	Blue-green	Diatom	Floating green	None
	Larger Plants					
21	Amount	Absent				Infested
22	Kind	None	Unknown rooted	Elodea duck weed	Water lily	Cattail
23	River fauna	None				Large variety
24	Pollution evidence	None				Evident
	Land flora					
25	Valley	Open	Open with grass, trees	Brushy	Wooded	Trees and brush
26	Hillside	Open	Open with grass, trees	Brushy	Wooded	Trees and brush
27	Diversity	Small				Great
28	Condition	Good				Overused
	Human Use & Interest Factors					
	Trash & litter					
29	Metal (no. per 100 ft. of river)	<2	2–5	5–10	10–50	>50
30	Paper (no. per 100 ft. of river)	<2	2–5	5–10	10–50	>50
31	Other (no. per 100 ft. of river)	<2	2–5	5–10	10–50	>50
32	Material removable	Easily removed				Difficult removal
33	Artificial controls (dams, etc.)	Free and natural				Controlled
	Accessibility					
34	Individual	Wilderness				Urban or paved access
35	Mass use	Wilderness				Urban or paved access
36	Local scene	Diverse views and scenes				Closed or without diversity
37	Vistas	Vistas of far places				Closed or no vistas
38	View confinement	Open or no obstructions				Closed by hills, cliffs, or trees
39	Land use	Wilderness	Grazed	Lumbering	Forest, mixed recreation	Urbanized
40	Utilities	Scene unobstructed by power lines				Scene obstructed by utilities
41	Degree of change	Original				Materially altered
42	Recovery potential	Natural recovery				Natural recovery unlikely
43	Urbanization	No buildings				Many buildings
44	Special views	None				Unusual interest
45	Historic features	None				Many
46	Misfits	None				Many

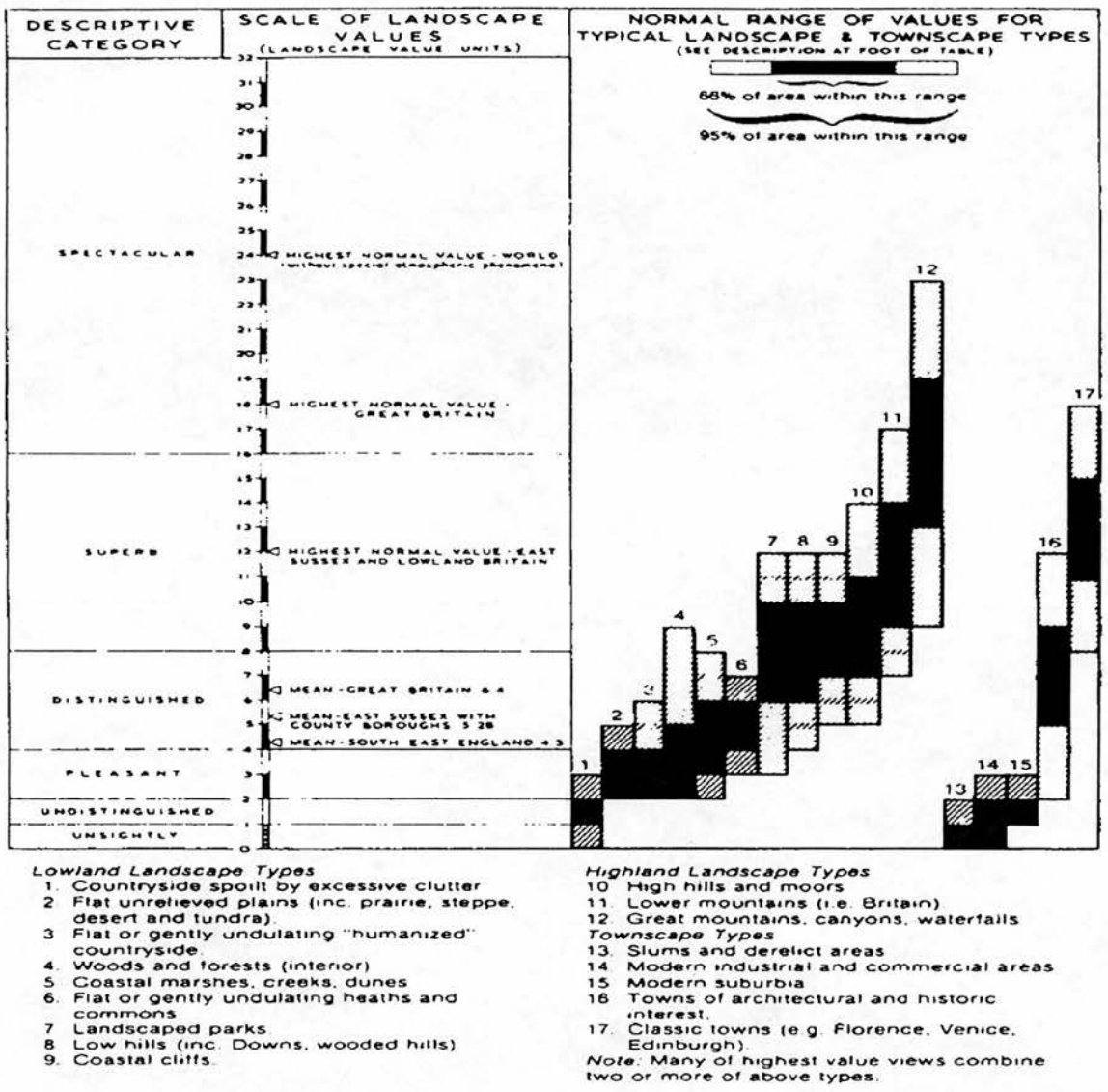
KEY:
< less than
> greater than
≤ less than or equal to
≥ greater than or equal to
/ divided by

(Figure 2.2) Definition of class categories: Leopold model
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, Pp 368-369.

LANDFORM						
Category and rating	*0 Lowland*	*2 Low Uplands*	*3 Plateau Uplands*	*5 Hill Country*	*6 Bold Hills*	*8 Mountains*
−5 Urbanized and industrialized	−5	−3	−2	0	+1	+3
−2 Continuous forest	−2	0	+1	+3	+4	+6
+1 Treeless farmland	+1	+3	+4	+6	+7	+9
+3 Moorland	+3	+5	+6	+8	+9	+11
+4 Varied forest and moorland	+4	+6	+7	+9	+10	+12
+5 Richly varied farmland	+5	+7	+8	+10	+11	+13
+6 Wild landscape	+6	+8	+9	+11	+12	+14

(Figure 2.3) D. Linton's Scenery Assessment Matrix
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perciption Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 366.

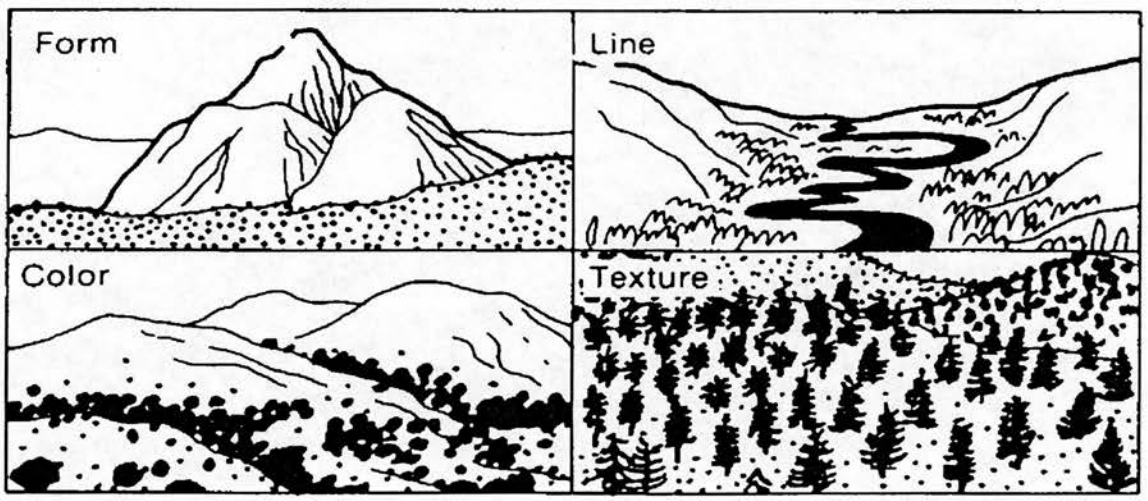
3- Another technique of rating has been used by Fines (1968). A set of twenty "exemplary photographs" of representative landscape types were used in three general categories of **highland, lowland,** and **townscape**. Figure **2.4** shows how Fines scaled his visual ratings by adding value ratings - for these three categories - for all possible views of a tract of land, which could map scenic values in a certain area. The judgments of his final rating scheme on these photographs, which were given numerical ratings have been done by professionals as well as by people without design training.



(Figure 2.4) Fines visual-ratings scale
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perciption Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 367.

4- The U. S. Forest Service developed a set of visual landscape manuals based on landscape architectural design principles (USFS 1973, 1974). The scheme was to evaluate 'visual harmony' by using three fundamental concepts: **the identifiable character of the landscape (characteristic landscape), the visual variety, and the deviations from the characteristic landscape.** These basic concepts were examined using three sets of criteria: "**dominance elements**" as in (figure **2.5**) , "**dominance principles**" as in (figure **2.6**), and "**variable factors**" as in (figure **2.7**). The visual

modes of form, line, colour, and texture were assumed to be the basic ingredients of landscape perception (figure **2.5**). However, there are six of these principles, consisting of **contrast, sequence, axis, convergence, codominance, and enframement,** which affect the perception of dominance elements (figure **2.6**). Finally, the variable factors were **motion, light, atmospheric conditions, season, distance, observer position, scale, and time** , which represented the changes in visual condition and the perception of the dominance elements (figure **2.7**). In addition, 'sensitivity' (figure **2.8**) was not really a measure of public concern for environments, but rather a measure of the degree to which places were seen from travel routes, use areas, and water bodies.

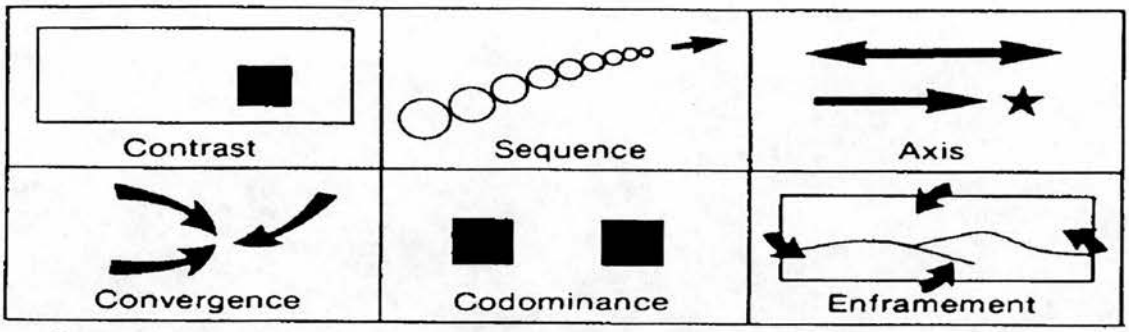


Four elements compete for dominance in any landscape:

- Form
- Line
- Color
- Texture

All four elements are usually present but exert differing degrees of visual influence, power or dominance. These elements are described as *dominance* elements to emphasize the importance of looking at both the landscape and the proposed management practice in two ways: (1) their basic visual ingredients and (2) the relative strengths of each.

(Figure 2.5) Dominance elements
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 370.

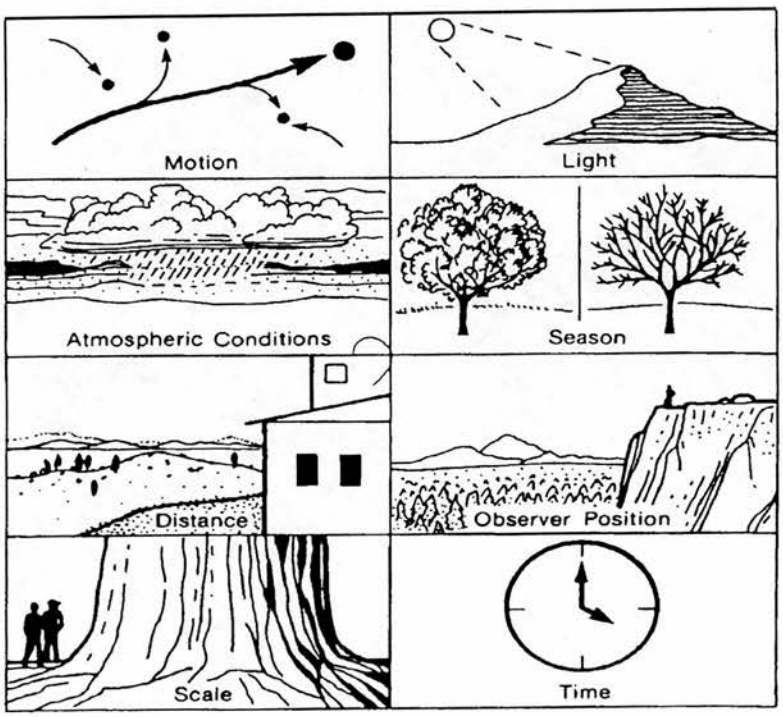


Six basic principles affect the visual dominance of form, line, color, and texture in a landscape:

- Contrast
- Sequence
- Axis
- Convergence
- Codominance
- Enframement

Understanding and use of these principles help the land manager analyze (1) the characteristic landscape and (2) the visual impact of his proposed management practices.

(Figure 2.6) Dominance principles
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, 370.



- Motion
- Light
- Atmospheric Conditions
- Season
- Distance
- Observer Position
- Scale
- Time

Eight factors affect how the dominance elements (form, line, color, or texture) are seen. These factors help to identify the most critical location or time to judge a management activity's degree of visual impact.

In analyzing the influence of variable factors on visual dominance, it is most important to choose the conditions which give the activity the greatest contrast with the characteristic landscape.

In other words, we want to judge the potential visual impacts under the most severe, most sensitive conditions possible.

(Figure 2.7) Variable factors
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, 370.

	Primary importance	*Secondary importance*
Travel route	National importance High-use volume Long-use duration Forest land access roads	Local importance Low-use volume Short-use duration Project roads
Use areas	National importance High-use volume Long-use duration Large size	Local importance Low-use volume Short-use duration Small size
Water bodies	National importance High fishing use High boating use High swimming use	Local importance Low fishing use Low boating use Low swimming use

(Figure 2.8) Sensitivity factors
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 371.

5- The Visual Resource Management Program of the Bureau of Land Management (BLM) has a similar process to that of the U.S. Forest Service's, with the exception of more visual variety, meaning more aesthetically pleasing landscape - except that variety without harmony represents intrusion and detracts from the aesthetic pleasure (BLM 1980). There are seven "key factors" in the BLM landscape rating procedure: **land form, vegetation, water, colour, adjacent scenery, scarcity, and cultural modifications.** In figure **2.9** these scores are totaled to yield three 'scenic quality' classes:

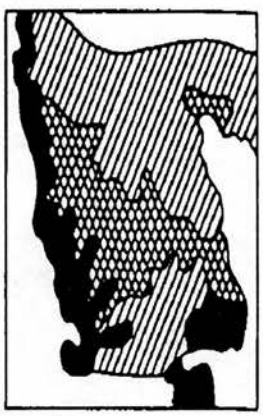
Class A (19-33 points): combines the most outstanding characteristics of each rating factor (e.g., rare plants).

Class B (12-18 points): represents a mix of some outstanding and some common features (e.g. rare plants and distinctive areas of cultural modification).

Class C (1-11 points): represents features common to the area (e.g., hilly or flat areas with vegetation).

The BLM combines these 'scenic quality' classes with "sensitivity levels" to derive a set of Landscape Management Classes. Sensitivity-levels are based on a combination of user-attitude and use volume, and the distance of zones for the view-foreground, middleground, and seldom seen.

Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modifications
5 High vertical relief such as prominent cliffs, spires or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems, or detailed features dominant and exceptionally striking and intriguing such as glaciers	5 A variety of vegetative types in interesting forms textures, and patterns	5 Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape	5 Rich color combinations variety or vivid color, or pleasing contrasts in the soil, rock, vegetation, water or snow fields	5 Adjacent scenery greatly enhances visual quality	6 One of a kind, or unusually memorable, or very rare within region Consistent chance for exceptional wildlife or wildflower viewing	2 Free from aesthetically undesirable or discordant sights and influences, or modifications add favorably to visual variety
3 Steep canyons, mesas, buttes cinder cones and drumlins, or interesting erosional patterns or variety in size and shape of landforms, or detail features present and interesting though not dominant or exceptional	3 Some variety of vegetation, but only one or two types	3 Flowing or still, but not dominant in the landscape	3 Some intensity or variety in colors and contrasts of the soil, rock and vegetation, but not a dominant scenic element	3 Adjacent scenery moderately enhances overall visual quality	2 Distinctive, though somewhat similar to others within the region	0 Scenic quality is somewhat degraded by inharmonious intrusions, but not so extensively that they are entirely negated, or modifications add little or no visual variety to the area
1 Low, rolling hills, foothills or flat valley bottoms interesting, detailed landscape features few or lacking	1 Little or no variety or contrast in vegetation	0 Absent, or not noticeable	1 Subtle color variations, contrast or interest, generally muted tones	0 Adjacent scenery has little or no influence on overal visual quality	1 Interesting within its setting, but fairly common within the region	-4 Modifications are so extensive that scenic qualities are mostly nullified or substantially reduced



Scenic Quality

A Scenery

B Scenery

C Scenery

(Figure 2.9) Scenic quality inventory/evaluation rating criteria and score
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perciption Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 372.

The Psychophysical Paradigm

> ***"The psychophysical paradigm is founded upon traditional experimental psychology, in which carefully controlled experimental manipulations are used to stimulate measurable reactions in subjects".***[13]

> ***"The most important assumption is that the landscape or elements of the landscape act as stimuli to which observers respond".***[14]

> ***"The psychophysical paradigm relies heavily on stimulus-response assumptions that originate from psychology, especially behaviourism".***[15]

Landscape in this paradigm seem to derive it's values from the actions of landscape stimulus features on passive human respondents. Daniel and Vining (1983) suggested four criteria for evaluating measurement techniques in the study of psychological testing. These criteria have been used in the field of landscape assessment through various approaches. These criteria are:

1- Validity is the relationship between what is measured and what is supposed to be measured. For example, the topographic relief and scenic quality.

2- Reliability is the consistency of results from repeated measurements; if a test given under similar conditions does not yield similar results, it is not considered reliable.

3- Sensitivity is the ability of the technique to measure actual differences; for example, the ability of a measurement between a park and a garbage dump.

4- Utility determines whether the test yield findings can be used for what is intended; a measurement that does not show what are the landscape elements that could be managed will not be useful for managers, no matter how valid.

The evaluation of landscape quality is done by the general public, or by special-interest groups, rather than experts. One direct way of evaluating landscape through the general public: is to learn what they find appealing. For special interest groups: the test may determine the aesthetic or scenic preferences of the users of a particular landscape. An example of evaluation by special interest groups are tested correlations between campground attractiveness and how much the campground areas were actually used in order to see if the stated preference corresponded with actual behaviour, and to determine whether significant differences in landscape perception exist between different groups (Heberlein and Dunwiddie 1979).

One of the main goals of the Psychophysical researchers is to concentrate on landscape properties which can be manipulated or changed by resource managers and designers. However, this paradigm focused on forest landscape planning and management of rural landscapes, outdoor recreation settings, and comparisons of natural and man-made landscapes. Shafer (1969) used a 'high-quality' rating in analyzing landscape elements over grided photographs. Another way is to make the analysis from slides of forest scenes (Daniel and Boster 1976), (For example, designing forest road corridors, testing the visual effects of timber harvesting and management, for creating scenic beauty maps of forest areas). The author's example was based on ratings of landscape photographs, which were then measured in terms of quality foresters used in forest management, such as tree diameters; number of stems per acre; cubic volumes of downed wood; or volumes of grass, forbs and shrubs per acre .

Most of these techniques of landscape perception depend on photographs, while the reliability of rating varied from one researcher to another. A fair portion of psychophysical landscape perception research is methodological-suggesting, validating, or criticizing method. Concerning this last method, Zube argues that; although designers and the lay-public tend to rate landscape aesthetics quite similarly - based on photographs - significant differences may occur between these groups in ratings based on renderings or drawings of landscapes.

In the model of the human-landscape interaction model (shown earlier figure **2.1**), the landscape tends to assume the dominant role, with stimulus properties that are external to the observer, invarient, and perceivable without conscious thought. On the human side are passive observers, generalized into groups of "general public" or perhaps "special interest groups", whose aesthetic responses are conditioned by the stimulus properties of the landscape. The outcomes of such interaction are aesthetically verified measurements of public perceptions of landscape quality, with the identification of environmental elements that can be manipulated by resource mangers.

The Cognitive Paradigm

> "***landscape quality is seen as a construct built up in the mind (is the important focus of cognitive approaches to research), usually on the basis of visual information***".[16]

People were seen in this paradigm as "thinkers", whose aesthetic values come from the way information is given meaning in the mind or through social process. The concept is that "humans are thinking creatures who do not merely respond passively to environmental stimuli, but select aspects of the landscape that have value to them"(Zube 1987).

"The role of perception in human adaptation and evolution" is one of several approaches of cognitive research. In this instigation approach by Wohlwill and Kohn (1976) (adapted from Berlyne's arousal theory 1971;1960), there are "dimensionalized" landscape perceptions through the following set of axioms:

1- Preference is inversely related to uncertainty or conflict offered by a given landscape.

2- Looking at the relation between landscape complexity and preference, it is found that maximum and minimum complexity result in little preferences, while medium complexity results in optimal preference.

2- Past experience provides the frame of reference for evaluating a given landscape. Thus, adaptation along a specific dimension reflects adaptation levels from past experience"the human experience of landscape is most closely connected with our evolutionary heritage" Appleton (1975a, 1975b). According to this theory the changes to our greatest heritage of landscape came into existence in this evolutionary time. Because of the value, connections between the past human experience and landscape were developed and integrated with respect to the environment and the need for security. Therefore, natural landscape may tend to be more relaxing than man-made landscape because of the absence of human needs and the encouragement of nature.

In this paradigm, the human side in the interaction model is about people processing environmental information to make aesthetic choices. Moreover, a greater awareness of the context of human thought is sought in terms of evolution, social and cultural group, education, personality, professional role, and level of arousal. On the landscape level, there is a stress on the meaning and information available, which can be defined as: human-defined expressions like complexity, unity, coherence, mystery, or degree of naturalism. On the outcomes level, there is a revealed tendency toward the

human side with emotional or aesthetic feelings, or feelings of personal satisfaction (Zube et al. 1982).

The evaluation of the landscape in this cognitive work was concerned with verbal response, which meant that techniques such as survey questions, adjective check-lists (the simplest form), or semantic differentials were used. Figure **2.10** gives an example of such a check-list, used by Craik in his study of personality and landscape preference in the San Fransisco Bay Area (1975). This technique could prove to be useful in examining overall descriptive traits.

Figure **2.11** provides an example of the "semantic scale" used in Zube's study of the Connecticut River Valley (1974). Penning-Rowsell (1979) has added an interesting dimension to semantic differentials for use in landscape research: in addition to rating landscape along semantic scales, respondents were also asked to rate the importance of each pair of terms against the overall preference for the landscape.

Another way of doing this kind of rating, although this is not as common as the previous ways, is to use a survey question in landscape evaluation, which can go beyond aesthetic ratings and more effectively incorporate action type variables. In example figure **2.12**, preferences for residing, recreating and travelling in the landscape, as well as scenic quality, were evaluated. This method may be able to lend an insight into how people order their environment in terms of constructs and opposite poles, and what constructs can be most clearly associated with the landscapes identified as "best" or "worst".

1. active
2. alive
3. Alpine
4. angry
5. arid
6. artificial
7. autumnal
8. awesome
9. bare
10. barren
11. beautiful
12. black
13. bleak
14. blooming
15. blue
16. boggy
17. boring
18. bright
19. brisk
20. broad
21. brown
22. burned
23. bushy
24. calm
25. challenging
26. changing
27. clean
28. clear
29. close
30. cloudy
31. cold
32. colorful
33. colorless
34. comfortable
35. complex
36. contrasting
37. cool
38. craggy
39. crashing
40. creviced
41. crisp
42. cultivated
43. damp
44. dangerous
45. dank
46. dark
47. deep
48. dense
49. depressing
50. deserted
51. desolate
52. destroyed
53. dirty
54. distant
55. drab
56. dry
57. dull
58. eerie
59. empty
60. enclosed
61. eroded
62. external
63. exciting
64. expansive
65. extensive
66. falling
67. farmed
68. flat
69. flowery
70. flowing
71. foamy
72. foggy
73. forbidding
74. forceful
75. forested
76. free
77. fresh
78. friendly
79. frightening
80. gentle
81. glacial
82. gloomy
83. golden
84. grassy
85. gravelly
86. gray
87. green
88. happy
89. hard
90. harsh
91. hazardous
92. hazy
93. hidden
94. high
95. hilly
96. hot
97. humid
98. icy
99. imposing
100. impressive
101. inhabited
102. inspiring
103. intimate
104. invigorating
105. inviting
106. isolated
107. jagged
108. lazy
109. leafy
110. lifeless
111. light
112. living
113. lonely
114. lovely
115. low
116. lumpy
117. lush
118. majestic
119. marshy
120. massive
121. meadowy
122. misty
123. moist
124. monotonous
125. mossy
126. motionless
127. mountainous
128. muddy
129. mysterious
130. narrow
131. natural
132. nocturnal
133. noisy
134. open
135. orange
136. overpowering
137. pastoral
138. peaceful
139. picturesque
140. placid
141. plain
142. pleasant
143. pointed
144. polluted
145. powerful
146. pretty
147. pure
148. purple
149. quiet
150. rainy
151. rapid
152. reaching
153. red
154. reflecting
155. refreshing
158. relaxing
157. remote
158. restful
159. rich
160. rippled
161. rocky
162. rolling
163. romantic
164. rough
165. round
166. rugged
167. running
168. rushing
169. rustic
170. rusty
171. sad
172. sandy
173. scraggly
174. secluded
175. secure
176. serene
177. shadowy
178. shady
179. shallow
180. sharp
181. simple
182. sliding
183. slippery
184. sloping
185. slow
186. smoggy
187. smooth
188. snow-covered
189. soft
190. spacious
191. sparse
192. spring-like
193. stark
194. steep
195. still
196. stony
197. stormy
198. straight
199. strange
200. summery
201. sunny
202. swampy
203. swift
204. tall
205. terraced
206. terrifying
207. thicketed
208. threatening
209. timbered
210. towering
211. tranquil
212. tree-studded
213. tropical
214. ugly
215. undulating
216. unfriendly
217. uniform
218. uninspiring
219. uninteresting
220. uninviting
221. unspoiled
222. unusual
223. varied
224. vast
225. vegetated
226. violent
227. warm
228. watery
229. weedy
230. wet
231. white
232. wide
233. wild
234. winding
235. windswept
236. wintry
237. withered
238. wooded
239. worn
240. yellow

(Figure 2.10) Adjective check-list

Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, Pp 379-380.

Landscape Description and Evaluation Scales

1	Varied	1	:	2	:	3	:	4	:	5	:	6	:	7 Monotonous
2	Common	1	:	2	:	3	:	4	:	5	:	6	:	7 Unusual
3	Pleasant	1	:	2	:	3	:	4	:	5	:	6	:	7 Unpleasant
4	Beautiful	1	:	2	:	3	:	4	:	5	:	6	:	7 Ugly
5	Boring	1	:	2	:	3	:	4	:	5	:	6	:	7 Interesting
6	Tidy	1	:	2	:	3	:	4	:	5	:	6	:	7 Untidy
7	High Scenic Value	1	:	2	:	3	:	4	:	5	:	6	:	7 Low Scenic Value
8	Bright	1	:	2	:	3	:	4	:	5	:	6	:	7 Dull
9	Like	1	:	2	:	3	:	4	:	5	:	6	:	7 Dislike
10	Natural	1	:	2	:	3	:	4	:	5	:	6	:	7 Man-Made
11	Colorless	1	:	2	:	3	:	4	:	5	:	6	:	7 Colorful
12	Inviting	1	:	2	:	3	:	4	:	5	:	6	:	7 Uninviting
13	Obvious	1	:	2	:	3	:	4	:	5	:	6	:	7 Mysterious
14	Closed	1	:	2	:	3	:	4	:	5	:	6	:	7 Open
15	Hard	1	:	2	:	3	:	4	:	5	:	6	:	7 Soft
16	Smooth	1	:	2	:	3	:	4	:	5	:	6	:	7 Rough
17	Angular	1	:	2	:	3	:	4	:	5	:	6	:	7 Rounded
18	Light	1	:	2	:	3	:	4	:	5	:	6	:	7 Dark

(Figure 2.11) Semantic scale
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 381.

While traveling between viewing stations, please look at the landscape on both sides of the road. The vehicle will pull off the road periodically, and you will be asked to evaluate the landscape you have traveled through since the preceding stop. At each stop, you will be asked to indicate:

1. How strongly you would like to have a permanent residence in the landscape you just traveled through.
2. How strongly you would like to participate in outdoor recreational activities in the landscape you just traveled through.
3. How strongly you would like to pass through the landscape and enjoy the scenery.
4. How you would rate the scenic quality of the landscape you just traveled through.

In answering these questions at each stop, please base your decision only on the physical attributes of the section of landscape you just traveled through. Disregard any socioeconomic considerations, such as distance to work, availability of land, taxes, etc., that might otherwise influence your decision.

Indicate your reaction by circling the number that corresponds with your feeling. The meaning associated with each number is:

Questions 1, 2, and 3	*Question 4*
1-strongly dislike	1-very low
2-dislike	2-low
3-neutral	3-moderate
4-like	4-high
5-strongly like	5-very high

(Figure 2.12) Field survey questions
Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987, P 381.

Ulrich (1981) used several different psychological measures to study the relationships between landscape scenery and emotional stress. Ulrich found a significant increase in sadness after viewing urban scenes, and a decrease in fear arousal associated with nature-with water scenes. (He observed a significant sex difference in positive affect, which decreased for females after viewing urban landscapes and was relatively unchanged for males).

The Experimental Paradigm

> ***"Judgments of landscape quality, even more than those of works of art, involve the beholder's active participation. Art and other objects of aesthetic appreciation are detached from the observer, framed in space and time, quite distinct from their milieus. But landscape surrounds the observer, merging continuously with other landscapes to the horizon, and the absence of a set frame challenges the viewer to create his own perspectives."*** **(Lowenthal,1978,5)**

One of the major concerns of this paradigm was not intentionally focused on human or landscape components as independent of one another, but rather, it concentrated heavily on understanding the nature of the interaction between man and the landscape and its outcomes. This means that people are not simply observers of landscapes but participants in them. Naturally, the way in which people participate in the landscape has some influence on their landscape value judgement. Landscape values of a certain site are rarely articulated because people who are using it are seldom conscious of them, but change in these everyday landscapes can produce a strong sense of loss.

In this method, the approach to the human-landscape interaction model is that humans are seen as active participants in the landscape, and the landscape is the landscape as experienced. In other words, landscape gains meaning and value through the situations in which it is experienced. On the other hand, the outcomes, are mostly related to the quality or process of the experience (over time). One interesting feature in this method is its concern for the understanding of the evolution of landscapes and human activity in a particular environment. Another feature is the method's way of setting the evaluated landscape values. The fact the experimental paradigm requires that the researcher, instead of being separated from the people he studies, should endeavour to establish viable open relationships with these people, makes it a kind of "down to earth" method, although difficulties can emerge as a consequence of such relationships (e.g., lack of communication or mis-interpretation).

A related approach is the method of phenomenological experience of landscapes put forward by E. Relph (1979, 1984). This kind of approach leads to the examination of people's perception, a description of any particular landscape without attempting to obtain other people's views. Relph's approach is aimed more towards understanding and development of the ability to see what is in landscapes than toward manipulating the landscape themselves.

Another way of perceiving a landscape, as Lewis (1976) argues, is through students of the landscape. They are quick to point out that an aesthetic view is only one way of perceiving a landscape. Meining (1976) on the other hand, listed ten ways to view the landscape, each with a value connotation: as nature, habitat, artifact, system, problem, wealth, ideology, history, place, and aesthetic .

The experience of landscape could also be studied by examining art and literature. Tuan (1977) noted that "Actual experience can only be lived," and any

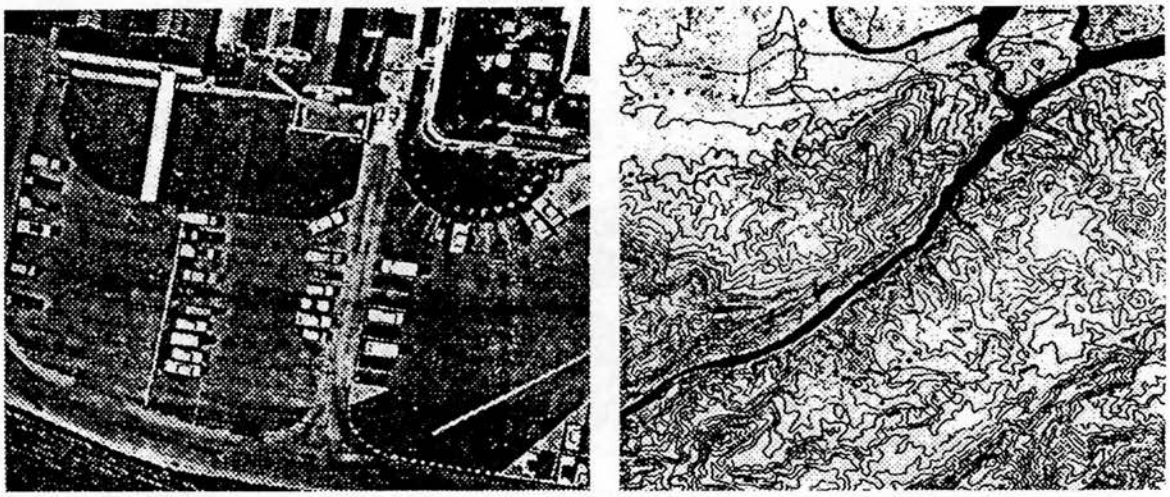
attempt to describe it reduces it to generalities . Matro (1978) added that perception of landscape is a creativity and ought therefore to be studied through creative expressions.

Other Assessment Models:

The R. L. Hebblethwaite Methodology

This evaluation method was cited in "**Land Use and Landscape Planning**" edited by Derek Lovejoy (1978), under the heading of "Landscape assessment and classification techniques" written by R. L. Hebblethwaite[17]. In summary, it consists of a system of factual assessment used by governmental agencies like East Sussex County Council, to deal with measurable quantities of areas of vegetation, and the shape and size of the landscape. A number of different techniques were suggested, all of which required professional operations like ariel photography, satellites and thermal imagery.

In general, this method deals with large scale assessment and reference in this book was only made to aerial survey, a fact that might make this method slow and outdated. However for small scale work, Hebblethwaite argues that field observation may be more practical and economical. This way of scoring gives a map - known for convenience as a wildlife evaluation map - which defines the boundary and relative value of each zone on the map accompanied by a short written statement. These statements define the ecological characteristics distinguishing each zone, along with an indication of those zones to which a "grade" has been assigned (See figure **2.13**).



(Figure 2.13) Aerial Photographs
Hebblethwaite, R. L.. "Landscape Assessment and Classification Techniques", in Land Use and Landscape Planning, Edited by Derek Lovejoy, Great Britain: The Pitman Press, 1973, P 21.

The Open University Model

Another evaluation model is that of "Practical Conservation" by Tait, Lane, and Carr; in **"The Open University in association with the Nature Council, 1988."** An example of a rural case study was provided of a site that was developed in order to serve and improve the conservation and management. The techniques of evaluation used in this method were displayed in the assessment of: land appearance, the factors that have contributed to this appearance in the past, and likely to affect it in the future. This methodology leads to the understanding of highly valued landscapes and why were they valued? It also leads to understanding which of these landscapes were less valuable and could be improved.

The method of landscape assessment utilized by the **Open University's** technique involves consideration of the **landform, vegetation** and **structures** that reflect long-term climatic influences, and also the influences of people on the land as well as their attitudes and social influences. All of which are very suitable for the study of a cultural landscape, unlike most of the previously reviewed systems of assessment.

The Open university model is characterized by its dependence on the landscape, and the impact of any decision that may be taken on the future proposed land-use. The Open University used an *uncountable grade* which gives the relative contribution of each of these features (i.e., land form, vegetation and structures). These grades - according to the Practical Conservation manual, prepared by The Open University in association with the Nature Conservancy Council in 1988- are divided into three categories: inconspicuous, noticeable, conspicuous, which would be used to cover the landscape features of the site from selected view points. Figure **2.14** shows the checklist of landscape features which will help in recording the presence or absence of such features.

It is important in this method to grade the contribution of the landscape features mentioned above to the overall landscape impression. The resulting checklist (s), would give a brief description of each view point, with the aid of photographs taken from different directions.

Figure **2.15** is a checklist of suggested terms to be used in an objective description of a certain landscape area, although the final evaluation of the study area does not have to, strictly, follow these terms and description items. However, a personal description should give a broad idea about the site in question. For instance, according to the Open university handbook of conservation, an analyst should be looking at shapes or colours creating the whole scene. He should also be looking at lengths and breadths of views, the proportion of land to sky, as well as the presence or absence of eye-catching features. The simplicity of the method lies in its clarity of terms and criteria. For example, looking for the most obvious features which are characteristic of the area, and whether they give a practical quality to the scene, or to the extent to which these features dominate the view, seems to be very comprehensible terms for a professional as well as a lay-man to carry out the required survey.

Accordingly, one can judge whether the studied site fits into, or differs from the surrounding area (e.g., this could be done by looking for trees and hedge cover).

Land holding ..... Viewpoint no. .....

Date ..... Time of day .....

Weather .....

Landform

Plain	Coast	Marsh	Lake
Lowland	Estuary	Mudflat	Pond
Plateau	Broad valley	Dune	River
Hill	Narrow valley	Beach	Stream
Crag or cliff	Deep gorge		Canal
Mountain			Ditch

Slopes

Vertical	Steep	Gently sloping
Undulating	Flat	

Vegetation

Woodland	
Broad-leaved woodland	Mixed woodland
Coniferous woodland	Scrub
Heathland and grassland	
Heather moorland	Bracken
Upland grass moor	Lowland heath
Peat bog	Lowland unimproved grassland
Water meadow	
Cultivated land	
Arable land	Market gardens and orchards
Improved pasture	Parkland
Linear features	
Hedgerows	Roadside verges
Woodland fringe	Railway embankments
River banks	
Small isolated features	
Isolated trees	Small shelter-belts
Groups of trees, mainly broad-leaved (less than 0.25 ha)	Copses and spinneys
	Small gardens
Groups of trees, mainly coniferous (less than 0.25 ha)	

Structures

Buildings	Fences
Farmyards	Walls
Camp sites	Telephone wires
Car parks	Electricity pylons
Quarries	Rubbish dumps
Industrial land	Derelict land

(Figure 2.14) Check-list of landscape features
*inconspicuous; **noticeable; ***conspicuous.
Joyce Tait, Andrew Lane and Susan Carr. Practical Conservation, London: The Open University in association with the Nature Conservancy Council, 1988, P 27.

Evaluation of the site as having particular colours, for instance, represented by a badly sited plot of land standing out from miles around, or the impact of the past period of history is apparent on the site represented by special characters that evolved through time, all are examples of the suggested techniques which lend themselves to a rather simple and practical methodology.

Figure (**2.16**) summarizes the landscape assessment methodology as indicated by the Open University Handbook of Conservation, which shows:

A- Background information, including historical aspects, public access and interests, and any legal obligations and constraints.

B- General impression of the land and its surroundings.

C- Landform, vegetation, structures and landscape perception from a range of view points.

D- Landscape zones.

Criterion	Suggested descriptions*
Scale	intimate, small, large, vast
Enclosure	tight, enclosed, open, exposed
Variety/diversity	uniform, simple, varied, complex, surprising
Harmony	well balanced, harmonious, discordant, chaotic
Movement	dead, calm, lively, busy, frantic
Texture	smooth, rough, coarse-grained
Naturalness	wild, unmanaged, remote, undisturbed
Tidiness	untidy, neat, over-managed
Colour	monochrome, subtle, muted, colourful, garish
Smell	pleasant, unpleasant, obnoxious
Sound	intrusive, noisy, quiet
Rarity	ordinary, unusual, rare, unique, familiar
Security	comfortable, safe, intimate, unsettling, threatening
Stimulus	boring, monotonous, bland, interesting, surprising, invigorating
Beauty	ugly, uninspiring, pretty, attractive, majestic, picturesque

(Figure 2.15) Landscape perception
Joyce Tait, Andrew Lane and Susan Carr. Practecal Conservation, London: The Open University in association with the Nature Conservancy Council, 1988, P 28.

(Note: This format is merely a list of relevant headings. You will need to write them out on several sheets of paper with space between headings for your notes.)

Site ..... Date .....

Background information

Including historical aspects, public access and interests, statutory and customary obligations and constraints, and any relevant maps.

Overall impression

Viewpoints

For each viewpoint, a brief description of the landform, vegetation, structures and landscape perception, including any maps, sketches and photographs.

Landscape zones

Landscape assessment map indicating the landscape zones, a brief description of each zone, the nature of the boundaries between them and links across them.

(Figure 2.16) Format for landscape assessment summary
Joyce Tait, Andrew Lane and Susan Carr. Practecal Conservation, London: The Open University in association with the Nature Conservancy Council, 1988, P 30.

Country Side Commission of England

The landscape assessment model designed and utilized by the Countryside Commission of England defines an approach that could also be used by other concerned individuals and organisations such as local authorities and voluntary bodies. The Commission's model -as all the models of cultural landscape assessment we have examined so far - is not solely concerned with the appearance of the land, but with people's reactions to and the pleasure which they gain from the landscape. They use the term "landscape assessment" throughout their report to reflect what they called "the popular usage" of the term. The Commission's model aims at conserving the natural beauty of the countryside, while improving and extending opportunities for its

enjoyment by the public. Initially, this was found to be a suitable beginning for the study of the cultural landscape of 'Asir.

The Commission's model clarifies two approaches to what they termed "objective" and "subjective" elements. The former elements are based on the indigenous qualities of the landscape, whereas the subjective approach reflects the reactions of the viewer to the qualities of the landscape. Both objective and subjective characteristics are vital when it comes to determining the value of a given landscape. They produce a checklist of the factors that affect the natural beauty of the landscape. Figure (**2.17**) shows the factors that the model designed by the commission treated as effective factors upon the natural beauty of the landscape.

The assessment model of the Countryside Commission is also characterized by its dependence on the landscape features, and the impact of any decision taken on any proposed land-use with respect to the natural beauty of the assessed landscape. The model used an incalculable grade (similar to that used by the Open University model). This system of evaluation considers the relative contribution of each of the landscape features, to clarify the objective and the subjective evaluation approaches (figure **2.18**, **2.19** and **2.20**). These grades are divided into three categories: inconspicuous, evident, and conspicuous, which are used to categorize the features of the studied landscape into distinctive visual categories for future evaluations (desk or field-surveys).

FACTORS AFFECTING NATURAL BEAUTY

Physiographic

- geology
- soils
- relief/land form
- land-use
- vegetation
- ecological habitats
- natural history/wildlife
- archaeology
- artefacts - buildings, walls

Aesthetic

a. visual
- extent/degree of enclosure
- form
- scale
- continuity/harmony/contrast
- diversity
- colour (hue, tone)
- texture
- presence of eyesores/detractors from scene
- contribution to wider landscape
- views out - length and breadth
- views in - length and breadth
- boundaries to views

b. other senses
- sound
- smells
- tastes
- touch

Association

- historical
  - general history of settlement
  - special events
- cultural
  - well-known personalities
  - literary
  - painting
  - music

Relative to other areas
- nationally rare
- regionally rare
- typical/representative of an area.

Feelings evoked in the observer - comfort, awe, remoteness, solitude, joy.

public accessibility
- indirect/visual
- direct/actual - by vehicle, bicycle, horse or foot.

(Figure 2.17) Factors Affecting Natural Beauty
Countryside Commission Approach: Landscape Assessment, 1987.

COUNTRYSIDE COMMISSION: Landscape Assessment

Project: Surveyor:

Date: Time: Weather:

Viewpoint: Direction of view:

Description: General impression

Any significant seasonal differences

Sketch

(Figure 2.18) General Information
Countryside Commission Approach: Landscape Assessment, 1987.

Record what is present by marking relevant words: / inconspicicuous	* evident	** conspicuous		
Landform				
flat	plain	coast		
rolling	rolling lowland	estuary		
undulating	plateau	broad valley		
steep	hills	narrow valley		
vertical	crags	deep gorge		
Land cover				
built-up	arable	decid.wood	marsh	cliff
road	pasture	conif.wood	river	beach
industry	moor	mixed wood	lake	dune
mineral working	scrub	parkland	reservoir	mudflat
Landscape elements				
farm buildings	walls	woodland	river	footpath
churches	fences	plantation	waterfall	track
ruins	hedges	shelterbelt	rapids	road
masts, poles	banks	tree clumps	falls	motorway
pylons		isolated trees	pond	railway
car park		hedgerow	canal	

(Figure 2.19) Objective Check-list
Countryside Commission Approach: Landscape Assessment, 1987.

Record your immediate impressions by marking each line with a circle around or nearest to the most appropriate word.				
Scale:	intimate	small	large	vast
Enclosure:	tight	enclosed	open	exposed
Variety:	uniform	simple	varied	complex
Harmony:	harmonious	balanced	discordant	chaotic
Movement:	dead	calm	busy	frantic
Texture:	smooth	managed	rough	wild
Colour:	monochrome	muted	clourful	garish
Rarity:	ordinary	unusual	rare	unique
Security:	comfortable	safe	unsettling	threatening
Stimulus:	boring	bland	interesting	invigorating
Pleasure:	offensive	unpleasant	pleasant	beautiful

(Figure 2.20) Subjective Check-list
Countryside Commission Approach: Landscape Assessment, 1987.

Ian McHarg Model

The evaluation method to be analyzed here is that suggested by Ian McHarg in **"Design with Nature"** (1969)[18].

> ***"There is still only a small shelf of books that deals with man's relations to his environment as a whole not with the so-called physical universe of the planets and the stars, the rocks and the soil and the seas, but with the creatures that inhabit the earth-all the forces and animate beings that have helped to make himself what he is. ...A recognition of these social values, inherent in nature processes, must precede prescription for the utilization of nature resources ."***

In his book, Ian McHarg considers nature as a basic factor in any design process. One study was an attempt to reveal some alternatives for the future destiny of the beleaguered Staten island (the Staten Island and Richmond Parkway, New York) (figure **2.21**). Today, many planning processes, notably highway planning, are unable to incorporate the value system of the community to be transected. In this particular case, these values were used to evaluate a site before proposing a passage for a state highway. McHarg's method is simply about the improvement of planning and development in such a way that it involves the concerned group of residents along side the proposed highway in the design process, which means that a certain community can employ its own value system at the design phase.

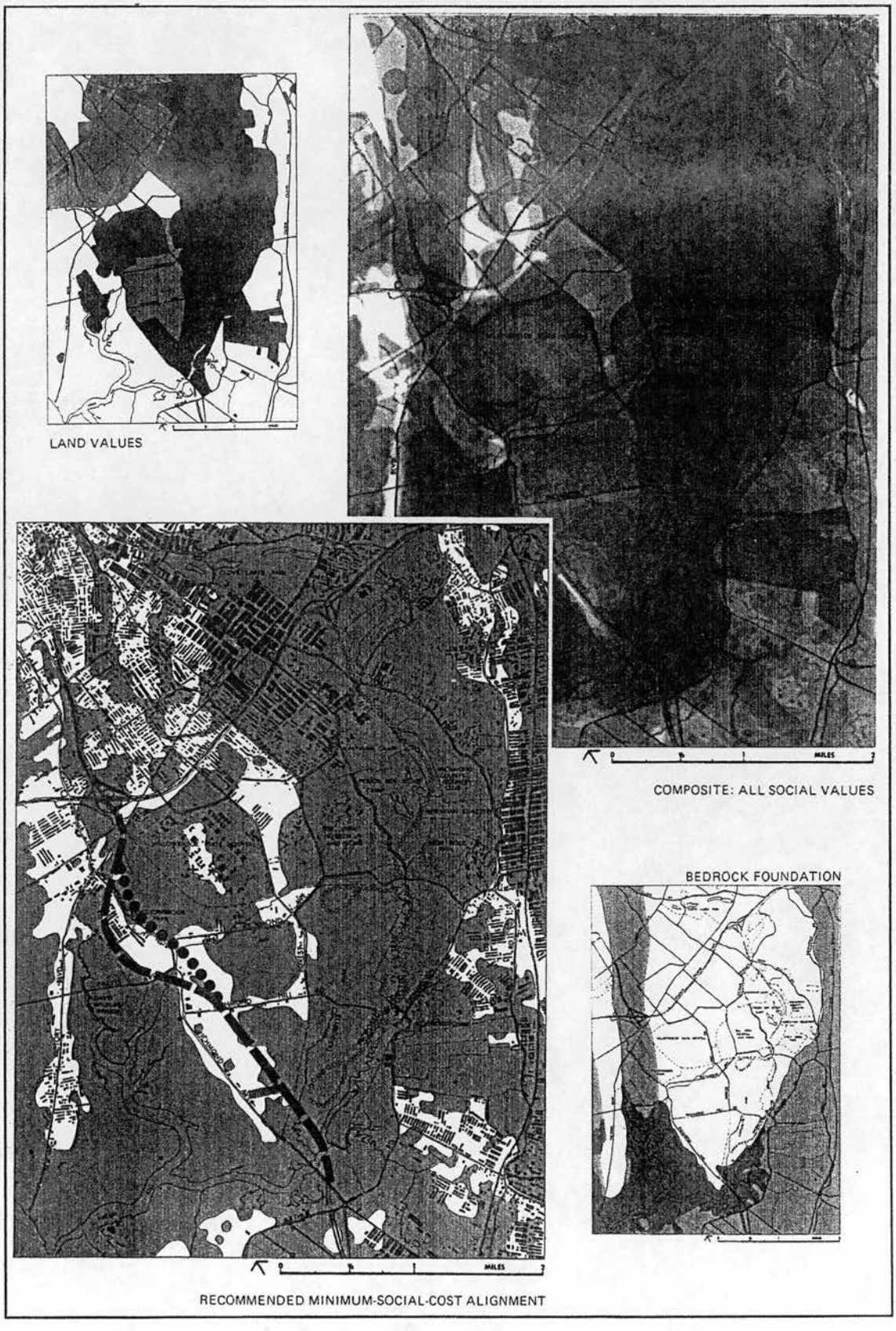
The method depended on making transparent maps, which included areas of **historical values, water values, forest values, wildlife values, scenic values, recreation values, residential values, institutional values and land values.** In relation to Staten Island, a set of maps such as geology, hydrology, soils, plant ecology and wildlife were taken into consideration in the design process. The method then

superimposes these transparent maps over a light-table and scrutinizes them for a final conclusion. One after the other, and layer after layer, these maps were laid down. An elaborate representation of the island like a complex X-Ray photograph with light and dark tones related to each of the proposed values. For example, the social values and physiographic obstructions were determined through the detection of dark tones which meant a higher grade for the social values, while light tones revealed the areas of least social values which represented the least direct cost for the highway construction; and so on.

Although the use of ariel photography was employed differently, McHarg's method of evaluation tended to differ from the cases seen before in its value ranking, through its use of a series of maps with diverse values, and by imposing these maps over each other, rather than dealing with each map independently. Almost automatically, values are turned into tones or grades of shading indicating the presence or absence of different values, and aspects of judgment ready to be used in the decision making process.

(Figure 2.21) Richmond Parkway
Mcharg, Ian. Design With Nature, Garden City, New York: Doubleday/Natural History Press, 1969, Pp 36-41.

Continue (figure **2.21**)



Ian C. Laurie Model

The final example of landscape evaluating methodologies to be reviewed in this chapter is the one suggested by Ian C. Laurie[19] in his **"Landscape Assessment: Values, Perception, and Resources."**

> ***"The need for visual quality landscape evaluation in the planning profession is commonly accepted as a product of the increased pressure for change in the landscape and of a growing need to protect the scenic qualities of the landscape as a resource in limited supply....Evaluation of the visual quality in the landscape is, however, mainly derived from longstanding appraisals of the relationships of man and nature, with a developing aesthetic awareness of landscape (particularly since the eighteenth century) in the form of philosophy, literary, and graphic preoccupation with the aesthetic qualities in scenery,"***

The late Ian C. Laurie worked at the Centre for Urban and Regional Planing at the University of Manchester. He prepared a chapter for the Landscape Evaluation Research Project being carried out between 1970 and 1974, which they prepared for the Countryside Commission for England and Wales. In this chapter, he introduced a method of evaluation in which he endeavours to close a gap in the present approach to visual evaluation of landscape by considering the techniques of the aesthetic designers. The need for this method stemmed from the motivation behind previous and current approaches, which were based on the assumption that aesthetic standards are held and sought after, and that they are an important cultural facet of our society.

What is important in his method is the way of measurement for aesthetic qualities. The perception of the beauty or the lack of it in a certain landscape area should

be fully classified and understood by the analyst observer in order to establish the visual qualities of the studied site, which can be easy to observe. (figure**2.22**).

General Qualities To Be Sought and Observed

---

1. Uniformity of character from homogeneity of vegetation and building materials.
2. Evidence of design and composition in the landscape.
3. Richness (that is, quantity and quality) of natural features and incident.
4. Absence of incongruities and conflicts of materials, scale, and color.
5. Lack of visually disturbing detractors.
6. The condition and character of buildings, bridges, fences, walls, gates, and the like.
7. Absorption of buildings into the landscape.
8. Relationship of linear elements to landscape.
9. Dominance and quality of undisturbed natural landform.
10. Presence of trees where landform is not dominant.
11. Sharp contrast of landforms and vegetation types.
12. Relationships of woodland plantation to landform.
13. Good outline of water areas.
14. Edge quality to water areas and watercourses.
15. Regularity of field and woodland patterns.
16. Spatial interest and spatial diversity.
17. Incidence and quality of panoramic views.
18. Vegetation health.
19. Cleanness of air and water.
20. Presence of wild flowers.

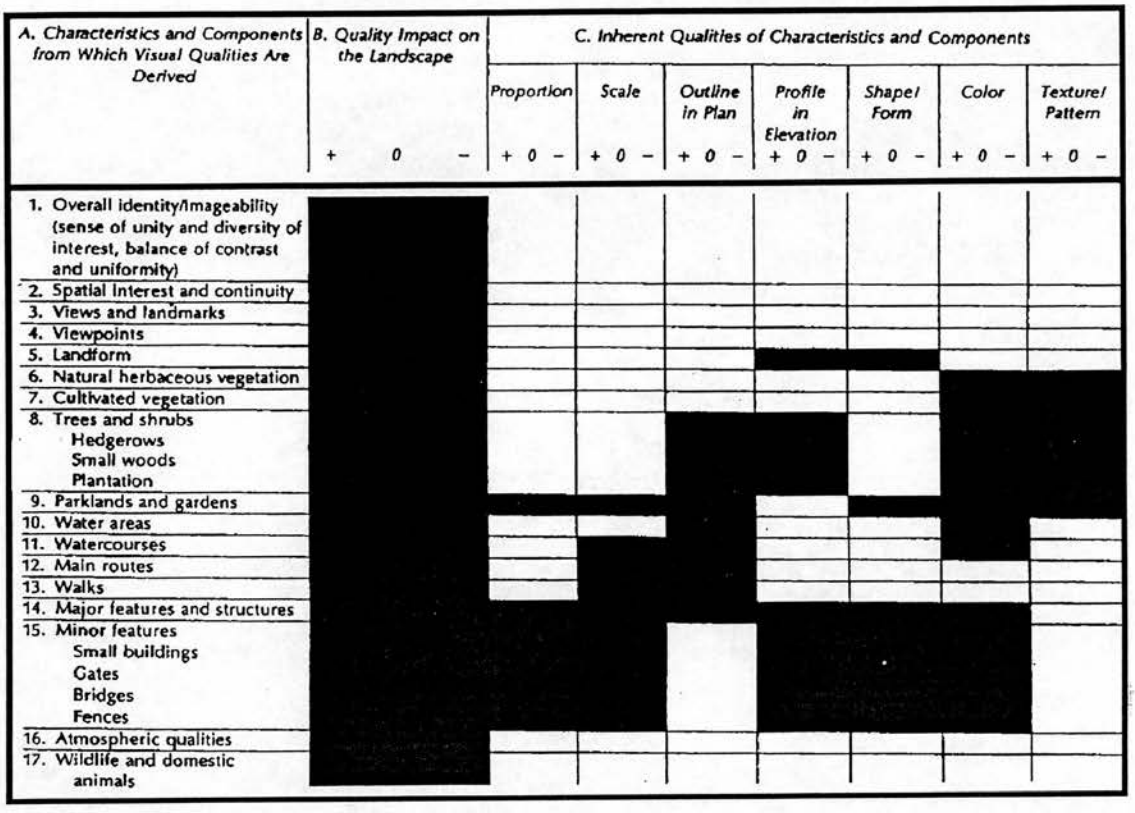
(Figure 2.22) Landscape Visual Qualities Assessments
Laurie, Ian C.. "AESTHETIC FACTORS IN VISUAL EVALUATION", in Landscape Assessment: Values, Perception, and Resources, Edited by Ervin H. Zube, Robert O. Brush, and Julius Gy. Fabos, Stroudsburg, Pennsylvania: Dowden, Hutchinson and Ross, Inc., 1975, P111.

The process of evaluation suggested by Laurie was based on the avoidance of measurement as an essentially intuitive response for which descriptions and interpretation can be attempted for the purpose of formulating policies. He argues that the extreme subtlety of the relationships that exist between the viewer and the landscape can only be determined by the eye and mind subconsciously. In Figure **2.23** an example is used for the assessment of visual quality as proposed by Laurie. The check-list works as a reminder for observers -to consider it for general visual qualities (figure **2.22**). This checklist is a recording of the characteristic and components of the studied landscape and gives common terminologies to landscape aesthetics. This method, although claiming that it derives the values of the landscape from the eternal relationships of man and nature, yet derives its values from the assessment of the landscape features. Its emphasis on visual evaluation is strong in comparison with previous models, except that the method at a point tends to over-emphasize the role of visual assessment to the extent of regarding it as the major element in landscape analysis.

1. The checklist indicates in summary form a range of aesthetic qualities that may be recorded in landscape. The objective is simply to indicate those qualities which give a landscape its perceptional character, as an aid to the making of policies for the conservation of that landscape.
2. The checklist recognizes that qualities are derived from the landscape seen as a whole, from the relationships among the objects seen in the landscape, and from the objects in relation to their landscape setting (columns B and C).
3. The checklist acknowledges that visual qualities may derive from the aggregate effect of small qualities as well as the single effect of a large quality.
4. Those qualities derived from movement through landscape as well as those obtained from viewing the landscape at selected viewpoints are included.
5. The checklist does *not* indicate specifically those additional qualities that derive from the visual relationships among the characteristics and components of landscape, except in as far as they affect the overall identity.
6. The checklist is *not* a score sheet, but could be a useful *aide memoire* to assessors and could be used to produce summary indications of the range of visual qualities in any landscape.
7. If the qualities are recorded as positive (+), neutral (0), or negative (−), indication is recorded of the visual impact. Such assessments have no significance if expressed in more specific measured terms, however, or if aggregated in any way.

(Figure 2.23) Visual Qualities Assessment Checklist
Laurie, Ian C.. "AESTHETIC FACTORS IN VISUAL EVALUATION", in Landscape Assessment: Values, Perception, and Resources, Edited by Ervin H. Zube, Robert O. Brush, and Julius Gy. Fabos, Stroudsburg, Pennsylvania: Dowden, Hutchinson and Ross, Inc., 1975, Pp 112-113.

Continue, (Figure **2.23**)



PART II: Validity Tests

This part will test the earlier reviewed models to establish the extent of the suitability and practicality of application of each of these models for the purposes of this research. This will involve the ten criteria established as evaluation tools in the last chapter. The results of this validity test, as it will appear in part III of this chapter, should determine the form and contents of the final assessment model to be used throughout this theses.

Evaluation of Assessment Models

The Expert Paradigm:

*- Focus on landscape features.

*- Used by Environmental decision makers and managers.

*- Addresses manipulatable attributes and characteristics of landscape.

*- Developed in cooperation with environmental agencies.

*- Concerned with application for it addresses the interests of decision makers and managers only.

*- Measures are subjective, idiosyncratic and not amenable to rigourous statistical analysis.

*- Reliability and validity cannot be measured like other paradigms.

*- Rating scales are ordinal (value ordered), it is difficult to differentiate between valued landscapes.

This paradigm aims at landscape management applications. Its main feature is that it describes the landscape from an expert's point of view, divided into artistic and ecological principles. Training in art and management is required for the researcher,

while treating public opinion with caution as they lack such training. There are five examples or modes of application for this paradigm, each with its own pros and cons:

First mode of application:

For the sake of this research, the areas of strength in this mode of application are the 'Human use' and 'human interest'. They are of greater importance to the evaluation of a cultural landscape than the other areas specified by the model like ecology and stream geomorphology.

Second mode of application:

The concept of 'visual vulnerability' with its four criteria are relevant to the visual assessment phase suggested by the Melnick model; therefore, the possibility of adopting such an application in this research is likely to be the case as will appear in the coming matrix. Also the idea of providing numerical rating for scenic values to land form and land-use could be modified to suit the visual assessment phase required by this research. This could be done by simply rating the visual elements of the studied site in a same manner as that employed by Linton, except that one will shift the priorities, or the higher grades to the non-material cultural factors (e.g. survival) rather than to material elements of scenic beauty. The fact that Linton's application allows inexperienced observers to conduct such an analysis is helpful in the sense that governmental personnel or non-educated natives of the studied cultural landscape, for example, could carry out similar studies better than an outside experienced landscape expert (e.g., a native could gain much better accessibility to the site).

Third mode of application:

The Fine's way of applying the Expert method is, again, relevant to the visual assessment phase of Melnick's model, but with more emphasis on the physical attributes and properties of the studied site leading to a more focused site identification.

The use of photographs was also emphasized by most landscape evaluators as a means of recording the site's features.

Fourth mode of application:

This kind of application, although similar to that of Melnick's site identification of the studied landscape, is more detailed and better categorized under three specific heading. Hence, if the categories of dominance elements, dominance principles, and variable factors, could be adapted here and, therefore, added to Melnick's visual assessment phase, enhancement of its application and more precision could be achieved.

Fifth mode of application:

This is a more complicated sort of application, suitable for large areas with a large number of landscape elements all existing at the same time in one particular site. The almost complete dependence of this application on numerical ratings makes it a statistical and a commercial kind of analysis. There is, however a slight possibility of adopting some of the criteria cited above to the methodology of this research (e.g., class divisions).

The psychophysical Paradigm:

*- Focus on landscape features.

*- Used by Environmental decision makers and managers.

*- Addresses manipulatable attributes and characteristics of landscape.

*- Developed in cooperation with environmental agencies

*- Concerned with application. It addresses the interests of decision makers and managers only.

*- Measures are valid and reliable, while procedures are consistent.

*- Presented information could be replicated and generalized.

*- Relies heavily on stimulus-response assumptions based on behaviourism, it is environmentally determinist.

This paradigm is also aimed at landscape management applications. It allows for public opinion to be incorporated in the research, which is a positive property of this application. The psychophysical Paradigm relies on intensive public involvement in the analysis, through observation or questionnaire, although people were treated as passive observers generalized into groups of special interest groups or general public. One of its limitations is its emphasis on public perception of scenic beauty. The validity of this test to the research lies in its consideration of the interactive relationship between man and the landscape, which is an important factor in the study of a cultural landscape. The categorisation of people into general and special interest groups requires a clear statement of certain value-judgement to be formulated well in advance before a single step in this kind of application could be carried out. Furthermore, it seems that the psychophysical paradigm is concerned with the physical attributes of the landscape along with their economic values.

The Cognitive Paradigm:

*- Focus is on the human side, emphasizing the values arising from human-landscape interaction process.

*- Of less interest to environmental decision makers and managers.

*- Could not be easily translated into landscape design and management.

*- Measures are valid and reliable, while procedures are consistent.

*- Presented information could be replicated and generalized.

This paradigm aims at understanding the importance of valued landscape to people. Like the psychological paradigm, it provides an understanding of people's judgements of scenic beauty. It also draws upon statistical analysis of public responses. An advantage of this methodology is that it does not emphasize the physical attributes

of the landscape, or variables that could be manipulated by the designer, planner or manager. It looks for meanings associated with the landscape, which are influenced by human cognitive processing. One of the disadvantages of this paradigm is its reliance on verbal responses of the concerned community, which might not be applicable in such studies of cultural landscape. The reason is certainly lack of communication between the researcher and the community he might be studying (using a foreign language or being of a primitive community). It also reduces the contribution of the evaluator to a mere surveyor or a collector of information rather than adding his experience to the overall evaluation. On the other hand, in the study of the Southern Region of Arabia, questions of a similar type seen above could be helpful in exploring more deeply the cognitive basis for scenic judgments. It may also prove to be very useful at the beginning of the research, to add depth to a more numerically oriented analysis.

The Experimental Paradigm:

*- Focus on people's experience, nature of activity, degree of awareness, social and cultural context, and the purpose to be achieved.

*- Of less interest to environmental decision makers and managers.

*- Could not be translated into landscape design and management.

*- Measures are subjective, idiosyncratic and not amenable to rigourous statistical analysis.

*- Reliability and validity of information cannot be measured like other paradigms because they are highly personal and difficult to generalize.

*- High sensitivity in terms of the ability to detect differences in meaning and value.

This paradigm, seeking a better understanding of the importance of valued landscape to people, has the advantage of understanding the evolution of landscapes and human activity in a particular environment. This means that a major factor in the definition of cultural landscape (the continuity and time frame of people's activities) is

satisfied through the application of this paradigm. It recognizes that there is a wider range of landscape values than merely the aesthetic of the design. Another important feature is the method's way of setting the evaluated landscape values in such a way that it makes the unit of analysis in this paradigm the human-landscape interaction. The fact that people are treated as active participants in the landscape, means that the landscape gains meaning and value through the situations in which it is experienced. On the other hand, the concept of the examination of people's perception of particular landscapes without attempting to survey other people's views, is rather difficult to comprehend as to the validity of people's exclusion from the analysis. Its phenomenological approach does not leave an opportunity of defining, categorizing or restructuring the image of the studied landscape, which is an unreliable means of dealing with cultural landscape.

The R. L. Hebblethwaite Methodology:

This method is included here for the sake of discussion only, as it proved unusable at any stage of the research. This method requires the involvement of a more financially and technically capable authority. Neither the scale, nor the scope of this study need such a magnitude of research. It is suitable for use on governmental level for the study of a whole country. Therefore, the adoption of such a hi-tech methodology in this research is most unlikely.

The Practical Conservation Method:

*- Focus on landscape features.

*- Used by Environmental decision makers and managers.

*- Addresses manipulatable attributes and characteristics of landscape.

*- Developed in cooperation with environmental agencies

*- Concerned with application and addresses the interests of decision makers and managers only.

*- Measures are valid and reliable, while procedures are consistent.

The importance of this assessment method is the evaluation and judgment of a certain landscape without using numerical values, a fact which suits the approach of this chapter in evaluating non-material components where numerical ratings are not valid or applicable. The method of landscape assessment utilized by the Open University involves consideration of the material components like landform, vegetation and structures, and also non-material components such as the influences of people on the land as well as their attitudes and social influences. All of which are very suitable for the study of a cultural landscape, unlike most of the previously reviewed systems of assessment.

The Countryside Commission Approach:

*- Focuses on landscape features.

*- Used by Environmental decision-makers and managers.

*- Usable by other concerned individuals and organisations.

*- Concerned mainly with the natural beauty of the countryside.

*- Developed in cooperation with environmental agencies (grant aid for land acquisitions).

This assessment method is similar in many aspects to the model designed by the Open University, especially in its use of a non-numerical grading system. Here, this approach of evaluating non-material components is found to be suitable for the purposes and intentions of this research. This model also allows for visual assessment of the landscape features in a detailed way that differentiates between the researcher's own value judgement and that of the viewers (non-trained). Considerations of the objective and subjective elements like landform, vegetation, structures, and the reaction of people to and the pleasure which they gain from the landscape are valuable tools that should facilitate drawing conclusions free of preconceived points of view on the researcher's side.

The Ian McHarg Methodology:

*- Focus on landscape features.

*- Used by Environmental decision makers and managers.

*- Addresses manipulatable attributes and characteristics of landscape.

*- Developed in cooperation with environmental agencies.

*- Concerned with application and addresses the interests of decision makers and managers, as well as concerned groups.

*- Measures are valid and reliable, while procedures are consistent.

*- Presented information could be replicated and generalized.

This method is a more planning oriented way of evaluating landscapes. Although the value judgement here is towards the support of state projects, its way of involving concerned groups of residents alongside the proposed project in the design process, means that a certain community can employ its own value system at the design phase. Far from being a landscape assessment model in the true sense of the term, McHarg's method of data collection and synthesis is highly applicable and easy to use (provided that the field study can yield some documentation which might include ariel photographs of the study area). The method also allows for sensitive considerations of material and non-material components, which is amongst the factors sought in a cultural landscape evaluation model.

The Ian C. Laurie Methodology:

*- Focus on landscape features, although claims to derive its values from the human-landscape relationship.

*- Measures are subjective, idiosyncratic and not amenable to rigourous statistical analysis.

*- Reliability and validity of information cannot be measured like other paradigms because they are highly personal and difficult to generalize.

*- High sensitivity in terms of the ability to detect differences in meaning and value.

This method is mainly concerned with the visual aesthetics of the landscape, which seems to be the dominant feature of the process. Its incompatibility in dealing with cultural and historical values makes the full application of the method rather insufficient to cover the needs of this research.

Conclusion:

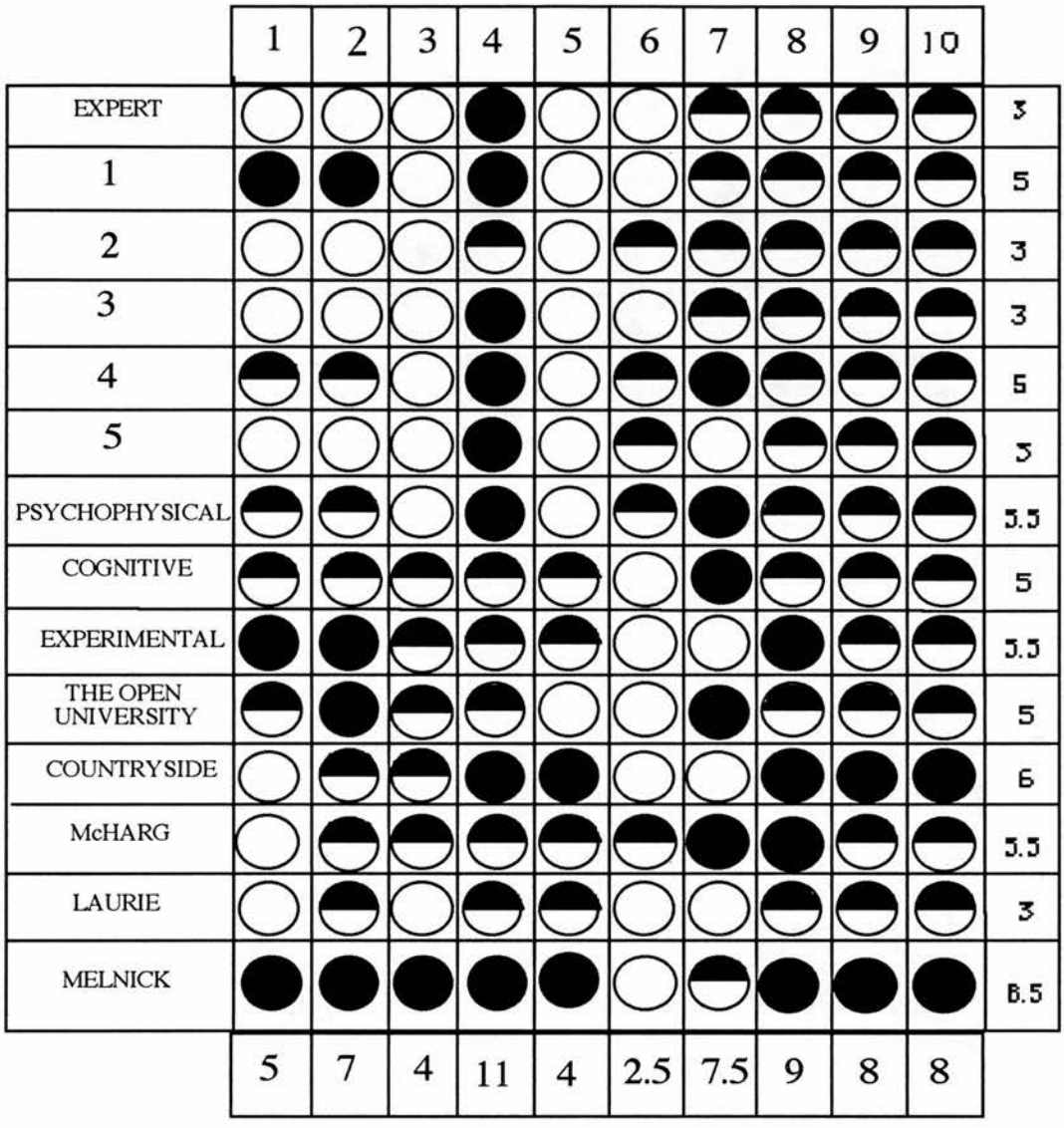
> ***"Landscape assessment is a notoriously difficult subject to tackle, as will be apparent from the divergent theories on the philosophical base."*** [20]

Each of the above discussed models has a special approach of its own towards the assessment of landscape. While these methods differ in their methodology, they all aimed at a better understanding of the relation between man and nature in one form or another. The major elements of difference seems to lie in the way they build their data inventory (e.g., observation, mapping), and the area they wanted to emphasize (e.g., management, people's perception of the land). These models cannot be combined wholly, so as to benefit from the totality of their analysis and goals, nor can any of these conceptual approaches or goals be ignored.

It is also noticeable that the application of these models differed from one locale to the other in terms of the emphasis on a particular theme. For example, the tendency towards attempts to quantify non-material components of the landscape is shown in the U.K, which might have contributed to the common criticism that 'beauty is in the eyes of the beholder' and could not be quantified or agreed upon; while simple descriptive techniques are the proprieties of models designed in the U.S.A. The model of the Open University, designed and applied in the U.K., gained from the avoidance of trying to quantify or rely on statistical analysis to capture the landscape.

It seems that all the future trends of landscape evaluation and assessment are going to rely on flexible approaches of assessment, recognizing the separate approaches of description, data inventory, classification, and evaluation. These trends will also emphasize the vital role of people's values and perception of the landscape in their evaluation, rather than having a 'one-way' perspective of the studied landscape.

This research, making a benefit of some degree of flexibility towards these different approaches, with an emphasis on human activities as a major part of studying cultural landscape, will attempt to show the strength and weakness of each of the models reviewed here, and will try to suggest a model by which a number of the goals and approaches of these methods could be combined to produce a useful and 'custom-made' methodology for this particular research. The following matrix (figure **2.24**) shows the results of the validity test of each of these models, followed by the justification of the final choice of the combined model.



(Figure 2.24) Matrix

Please note that the placement and values attached to these criteria are not arranged according to the priority or the importance of each of these criterion, to the task at hand (cultural landscape assessment). Rather, they have simply been given equal values (from 0 to 1) to avoid any mis-evaluation at this stage. For example, it is vital to consider human use and non-physical evidence of human existence in a particular site, therefore, failure to satisfy such a criterion will completely distort whatever model being used, yet, in this matrix, these models were given a grade of '0' to indicate non-satisfaction, or '0.5' for minor satisfaction while they should have been totally omitted from the contrast matrix if this validity test was aiming at a comparison to decide which of these models is to be used.

Evaluation Criteria:

1- study of cultural landscape must address significant cultural issues of human use and human alteration of that landscape.

2- cultural landscape is identified by the range of human input on the land (the existence of physical evidences and reminders of human settlements on the land). Continuity and the length of time of the activities as major tools of identifying the history of the landscape.

3- The study of cultural landscape must involve the study of physical and non-physical elements which combine to lead to the identification of that landscape.

4- Cultural landscape is influenced by a complex set of social, political, and economic factors. A knowledge in the various fields of ethnology, anthropology, cultural geography, and economics, along with their techniques of investigation are required.

5- The study of cultural landscape must be initiated by public awareness of the living history of a certain landscape exposed to negligence or deterioration. It should be affected though by any economical or political decision. The determination of significance needs to be accomplished through viewing the landscape from a variety of perspectives. Local significance may be greater than regional or national significance because, by virtue of its name, cultural landscape is more closely related or tied to the people who live in it.

6- Any system of evaluation must clearly state and suggest a proper and fair scientific scoring and rating system, so that at least two evaluators of the same cultural landscape can agree on the system used in evaluation, basis of judgement and criteria of scoring (some non-material components are not quantifiable, yet an introduction of re-rating system by a native of the landscape, or by re-assigning different values to the rating system as a further step might bring the results of the evaluation as close as possible to a fair conclusion).

7- Rating and scoring measures should valid and reliable, while procedures should be consistent to allow presented information to be replicated and generalized.

8- The study of cultural landscape should focus on both landscape features and on the human side of the landscape, focusing more on people's experience, nature of activity, degree of awareness, social and cultural context, and the purpose to be achieved.

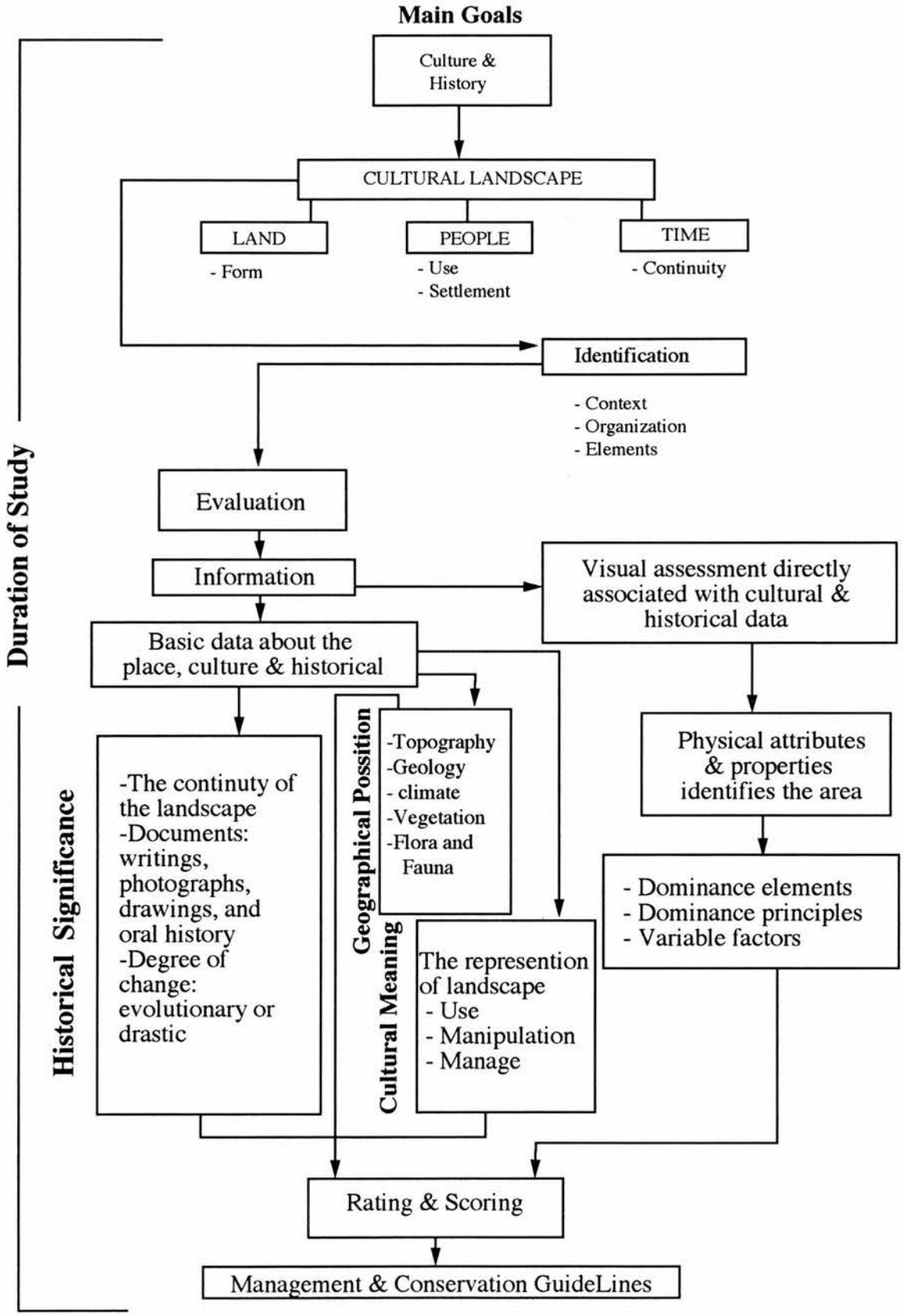
9- An assessment model - whether developed in cooperation with environmental agencies or with special interest groups - should be usable by environmental decision makers and managers, as well as the community at large (addressing the interests of both groups).

10- The method should be concerned with theory and application, and address manipulatable attributes and characteristics of landscape.

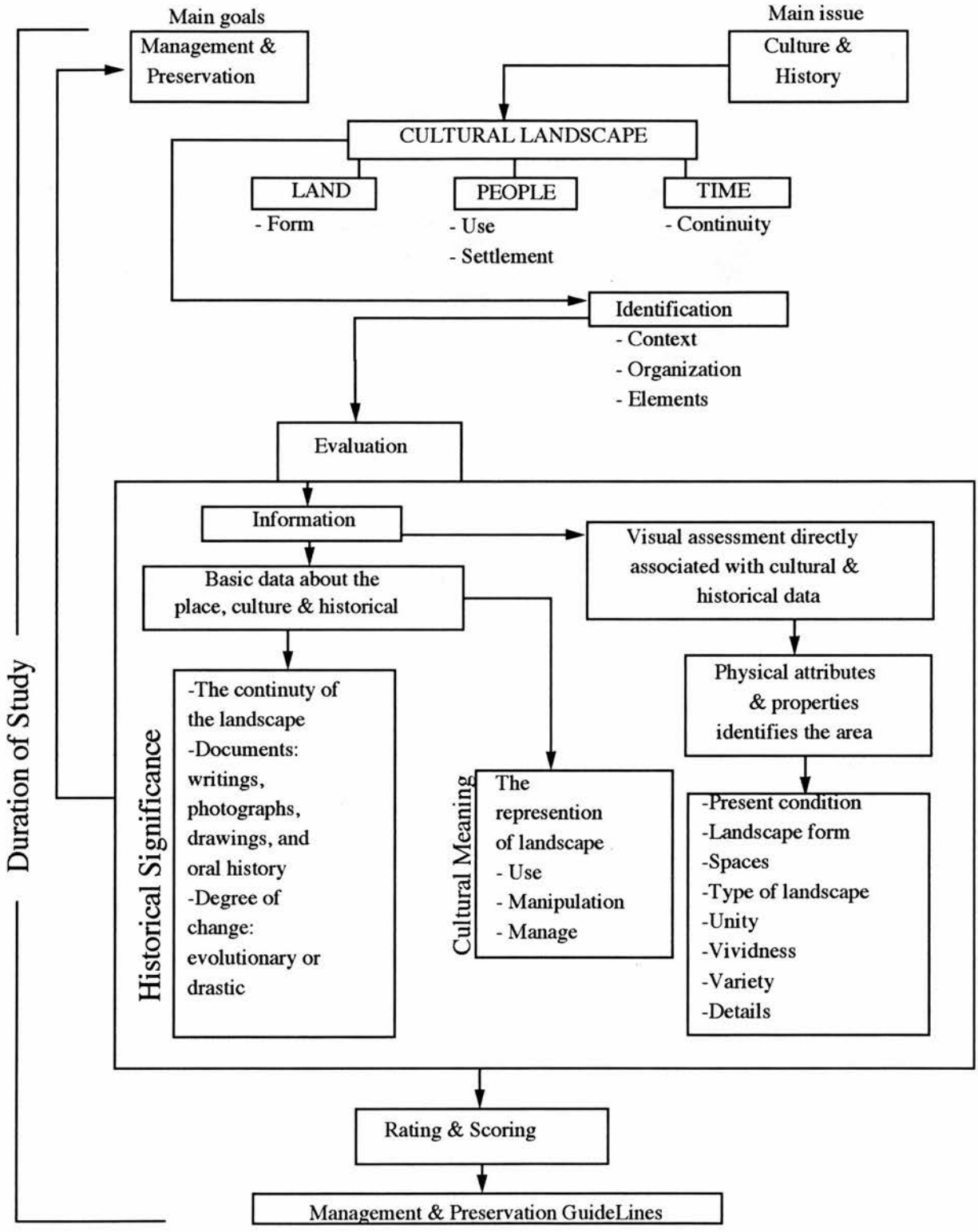
PART III: Result of Validity Test

As a result of the analysis of different methods of rating and scoring of cultural landscape, and of the different ways of establishing a practical method which can be used as a model of assessment, it very clear that most, if not all of these methods are concerned mainly with the physical attributes of the studied landscape as opposed to its historical and cultural values. If such an argument is established, then it should gradually give way to a compositional qualities formulation, represented through the creation of a multi-leveled evaluation model, capable of tackling the best of the two worlds: theory and application, the human side and the environmental decision makers side. Such a model does not necessarily have to be applied rigidly throughout the research, but rather gradually on different stages of the project, For example, by using the visual assessment of the U.S. Forest Service at the stage of evaluating the physical attributes of the site, while the experimental paradigm's methods of incorporating human values and physical attributes could come at a later stage to provide some further explanation which should contribute to a better site identification. And so, each model's strength can serve to complement the other to create a programme that is both useful for environmental management and publicly defensible from both theoretical and methodological standpoints (figure **2.25**).

The U. S. Forest Service's 'visual harmony' analysis, with its three concepts: **characteristic landscape, the visual variety, and the deviations from the characteristic landscape,** were chosen by this research to be combined with Melnick's cultural landscape evaluation model. This will be done by replacing Melnick's physical attributes of the landscape with the basic concepts examined by the U.S. Forest service, using the three criteria of: **dominance elements**, **dominance principles,** and **variable factors**. The visual modes of form, line, colour, and texture will be assumed



(Figure 2.25) Proposed Modification of Melnick's Evaluation Model



(Figure 2.26) The Summary of Melnick's Approach

to be the basic ingredients of landscape perception, along with the six principles of: **contrast, sequence, axis, convergence, codominance, and enframement,** which affected the perception of dominance elements. Variable factors such as **motion, light, atmospheric conditions, season, distance, observer position, scale, and time** , which represented the changes in visual condition and the perceivable of the dominance elements, will be used only in the early stages of the field study to enhance the identification step of Melnick's model.

The cognitive method's focus on the human side, and its emphasis of the values arising from human-landscape interaction process, will be utilized for its scoring techniques to replace the visual assessment of physical attributes of the Melnick's model. Its measures are valid and reliable, its procedures are consistent, and the presented information can be replicated and generalized.

The experimental paradigm's reliability and validity of information cannot be measured like other paradigms because they are highly personal and difficult to generalize. Yet they could be very useful in rating the historical significance of the cultural landscape because of the paradigm's high sensitivity in terms of its ability to detect differences in meaning and value.

If the current research was to provide any management and conservation guidelines, as was suggested initially, then there is a very good chance that the Expert Paradigm and the Open University methodology could be combined with Melnick's model to produce one complete process of data synthesis, guidelines formulation, and therefore some policy making procedure.

Finally, and because of the apparent weakness of all of these models to rate non-material components and emotional elements in the design, and because of the current disagreement between most evaluators of the landscape regarding the design of

a reliable evaluation system by which the subjective qualities of the landscape could be rated or be given a score, the chapter suggests that the historical and cultural significance of the study area be left without a rating system for the time being until a solid conclusion could be drawn as to the value judgement of this research. This research, however is inclined towards a safer position of being a professional landscape architect who is advocating the conservation of the cultural landscape sites of the region under study.

Meanwhile, the rest of Melnick's methodology will remain unchanged as the validity test indicated its superiority over other evaluation models particularly as a comprehensive tool for the assessment of cultural landscape. It is true that some of the data collection techniques utilized by the previously reviewed models will be incorporated at different stages of the research, but on a minor scale that does not require the replacement of a number of steps suggested by the Melnick model.

The following chapter presents the beginning of the process of understanding and evaluating the cultural landscape of 'Asir region through the application of the modified assessment model proposed in this chapter. This is first undertaken on a general level by providing the contextual background of the region which is the primary step in the Melnick's landscape identification phase. A closer look on a specific site - presented in chapter five - further enhances our understanding of the cultural landscape of the region as well as illustrating the potential use of the modified assessment model as a planning and management tool.

[1] Hebblethwaite, R. L. "Landscape Assessment and Classification Techniques" in Land Use and Landscape Planning, Edited by Derek Lovejoy, London: Leonard Hill Books, 1973. Pp 17-50.

[2] Mcharg, Ian. Design With Nature, Garden City, New York: Doubleday/Natural History Press, 1969.

[3] Hebblethwaite, R. L., op. cit.

[4] Joyce Tait, Andrew Lane and Susan Carr. Practical Conservation, London: The Open University in association with the Nature Conservancy Council, 1988.

[5] Laurie, Ian C.. "Aesthetic Factors in Visual Evaluation", in Landscape Assessment: Values, Perception, and Resources, Edited by Ervin H. Zube, Robert O. Brush, and Julius Gy. Fabos, Stroudsburg, Pennsylvania: Dowden, Hutchinson and Ross, Inc., 1975.

[6] Countryside Commission Approach. Landscape Assessment, Cheltenham: 1987.

[7] Taylor, J. G., E. H. Zube, and J. L. Sell. "Landscape Assessment and Perception Research Methods", in Methods in Environmental and Behavioural Research, Edited by R. Bechtel, R. Marans and W. Michelson, New York: Van Nostrand Reinhold Co., 1987, Pp 361-393.

[8] Ibid.

[9] Ibid.

[10] Leopold, L. B. (1969) Cited in Taylor, J. G., E. H. Zube, and J. L. Sell. "Landscape Assessment and Perception Research Methods", in Methods in Environmental and Behavioural Research, Edited by R. Bechtel, R. Marans and W. Michelson, New York: Van Nostrand Reinhold Co., 1987, Pp 361-393.

[11] Lintton, R. B. (1968). Cited in Taylor, J. G., E. H. Zube, and J. L. Sell. "Landscape Assessment and Perception Research Methods", in Methods in Environmental and Behavioural Research, Edited by R. Bechtel, R. Marans and W. Michelson, New York: Van Nostrand Reinhold Co., 1987, Pp 361-393.

[12] Linton, D. (1968). Cited in Lintton, R. B. (1968). Cited in Taylor, J. G., E. H. Zube, and J. L. Sell. "Landscape Assessment and Perception Research Methods", in Methods in Environmental and Behavioural Research, Edited by R. Bechtel, R. Marans and W. Michelson, New York: Van Nostrand Reinhold Co., 1987, Pp 361-393.

[13] Taylor, Zube, and Sell, op. cit.

[14] Taylor, Zube, and Sell, op. cit.

[15] Taylor, Zube, and Sell, op. cit.

[16] Taylor, Zube, and Sell, op. cit.

[17] Hebblethwaite, R. L., op. cit.

[18] Mcharg, Ian, op. cit.

[19] Laurie, Ian C., op. cit.

[20] Landscape Research Extra, No.4 , Spring 1990, P 10.

CHAPTER III

THE UNIVERSITY *of* EDINBURGH

Introduction:

The aim of this chapter is to introduce some background information about the area of study in order to set the stage for more detailed research of the cultural landscape which is the main goal of this thesis. This will include basic data about the study area such as the historical significance of the region along with the cultural meanings associated with its past.

The first section of this chapter provides a general background about the 'Asir region. It mainly deals with the natural or **geographical setting** of the area which includes location, climatic factors and other important physical features of the region. The second section deals with the **historical significance** of the region which is concerned with tracing the history of the landscape through the course of time, in order to understand how it has evolved and developed, and its relationship with any significant historical events associated with particular locations. The analysis carried out in this section depended mainly on photographs, on-site sketches and notes and historical documents and governmental reports. As explained in the second chapter of this research, the data resulting from such analysis should determine the degree of change to the studied landscape (whether evolutionary or drastic), which in turn would indicate the significance of the site and whether an assessment is required.

Finally, the third section deals with the **cultural meanings** associated with the studied landscape. This analysis includes a closer look at representation of the landscape such as the people's manipulation of it through the course of history, land use and land management.

PART I:

'Asir is one of the most fertile regions of south Arabia. Historically speaking, it was a route for travellers to Yemen, which made it a strategic location from the very beginning. It is characterized as the most populated region of Saudi Arabia, because of its fertility, moderate climate and great many agricultural resources. It has attracted tribesmen from around Arabia. These settled on almost all sorts of locations, flat lands, hills and mountains. The high competition that the attraction of the region generated between the larger tribes of Arabia, have marked this land with many bloody battle zones for hundreds of years before the unification of the Kingdom of Saudi Arabia. This warfare lead 'Asir to be neglected economically and politically for a long period of time, but it also guarantied its conservation from the rising tides of `modernity, that most regions of Arabia suffered from as seen in chapter one.

The socio-cultural context of the region is highly diversified. Although it is mainly populated by Arabian tribes of similar ancestry, each of these tribes represent a totally distinctive sub-culture with its own rules, conventions, habits, values, norms and habitats. The fact that the largest and most prominent tribes of Arabia dwell in this land adds to its political and cultural significance. And because of its ancient history, the region is further divided -culturally- into old tribal zones designating particular agricultural, pastoral, herding, irrigation, and settlement locations for each of these tribes. The heads of these tribes represent the highest authority -after the prevailing Saudi/Islamic law of the land- and still maintain their traditional position in resolving disputes, clarification of tribal territories and so forth. Most of the population still maintains a traditional lifestyle and it is an agriculture-dependant economy.

Geographically speaking, the region of 'Asir covers an area of about 400 Km of the southwest of Arabia. It is geographically and climatically divided into two

distinctive zones: The high lands known as ***Surat 'Asir*** , and the low lands known as ***Tihamat 'Asir***. These two zones could be further divided into four geographical zones:

a-The Eastern Plains :

This is mainly an agricultural area that enjoys an abundance of water sources and fertile soils.

b-The Highlands:

This is the most populated area of the whole 'Asir region (although it also has the highest altitude = 10,000-11,000 meters ASL., it is populated by about 1,000,000 of the Kingdom's total population of about 12 millions). The majority of governmental projects and national park developments are concentrated within this part of the region which is becoming the national summer resort of the Kingdom. All the selected case-study sites fall within this area of 'Asir.

c- The Escarpment (Tihamah):

This is the part surrounded by mountain chains from one side and the coastal plains from the other.

d- The Coastal Plains:

An area parallel to the coast of the Red Sea, enjoying beautiful beaches and a relatively milder weather in both in Summer and Winter - if compared with the rest of the 'Asir region.

1- Geographical Setting:

In the following section the geographical setting of this region is described in the following categories:

1.1- Topography: location, structure and relief.

1.2- Geological composition.

1.3- Climate: air temperature, rainfall.

1.4- Flora and fauna.

A-Natural Vegetation

B- Agriculture

C-Fauna

1.1- Topography of the 'Asir Region

The region of 'Asir is located in the southwestern part of the Arabian Peninsula (the southern region of the Kingdom of Saudi Arabia), stretching from the shores of the Red Sea (***Al- Bahar Al- Ahmar***) on the west to the vast sands of the Empty Quarter (***Al- Rubu' Al- Khali***). It covers approximately 400 square kilometres of the Afro-Arabian Peninsula. 'Asir Region lies between the latitudes of 17° 20' and 20° 50' North and longitudes 41° 30' and 44° 30' East[1].

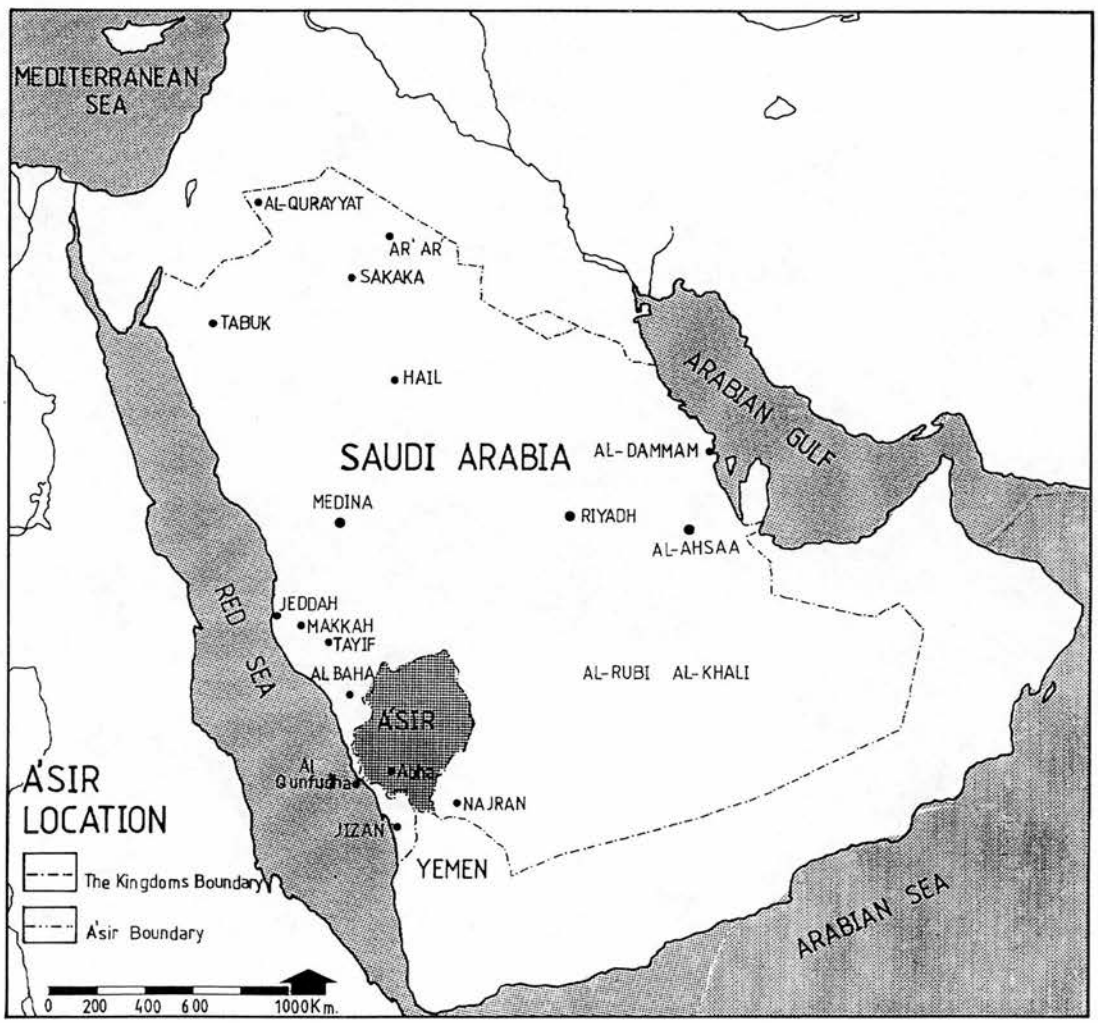
The 'Asir region extends from south west of the border of **Addarb, Shuqayq** and **Bish** (important towns in the northern region of **Jaizan**), to the **Yemen** border in the south east of Arabia; and from the border of **Wadi Al-Dawasir** in **Riyadh** region (central region of Saudi Arabia Arabia) in the north east, to the town of **Ranyah** in **Makkah** region (Western region of Saudi Arabia). It also extends from ***Ghamid*** and ***Zahran*** (main towns in **Al-Baha** region) to the coastal plain (defined by the borders of the town of **Al-Qunfudhah**) The region of 'Asir is bordered by the Emirate of **Najran** on the south east[2] (figures. **3.1**, **3.2**, **3. 3** and **3.4**).

Politically, the Region is divided into nine districts or principalities (emirates or ***Emarat***). These are **Abha, Khamis Mushayt, Muhayil, Al-Namas, Bishah, Tathleeth, Surat 'Ubaidah, Sabt Al-'Alayah,** and **Dhahran Al-Janub**. Of these nine Emirates, **Abha** and **Khamis Mushayt** are the largest and most populated.The total population of the region is approximately 1,085,203. Population distribution is among 4007 towns and villages and 59 local emirates. At the cultural level, the region is divided by tribal territories which are recognized by the government. Figure **3.2** shows the distribution of the tribal territories in the region .

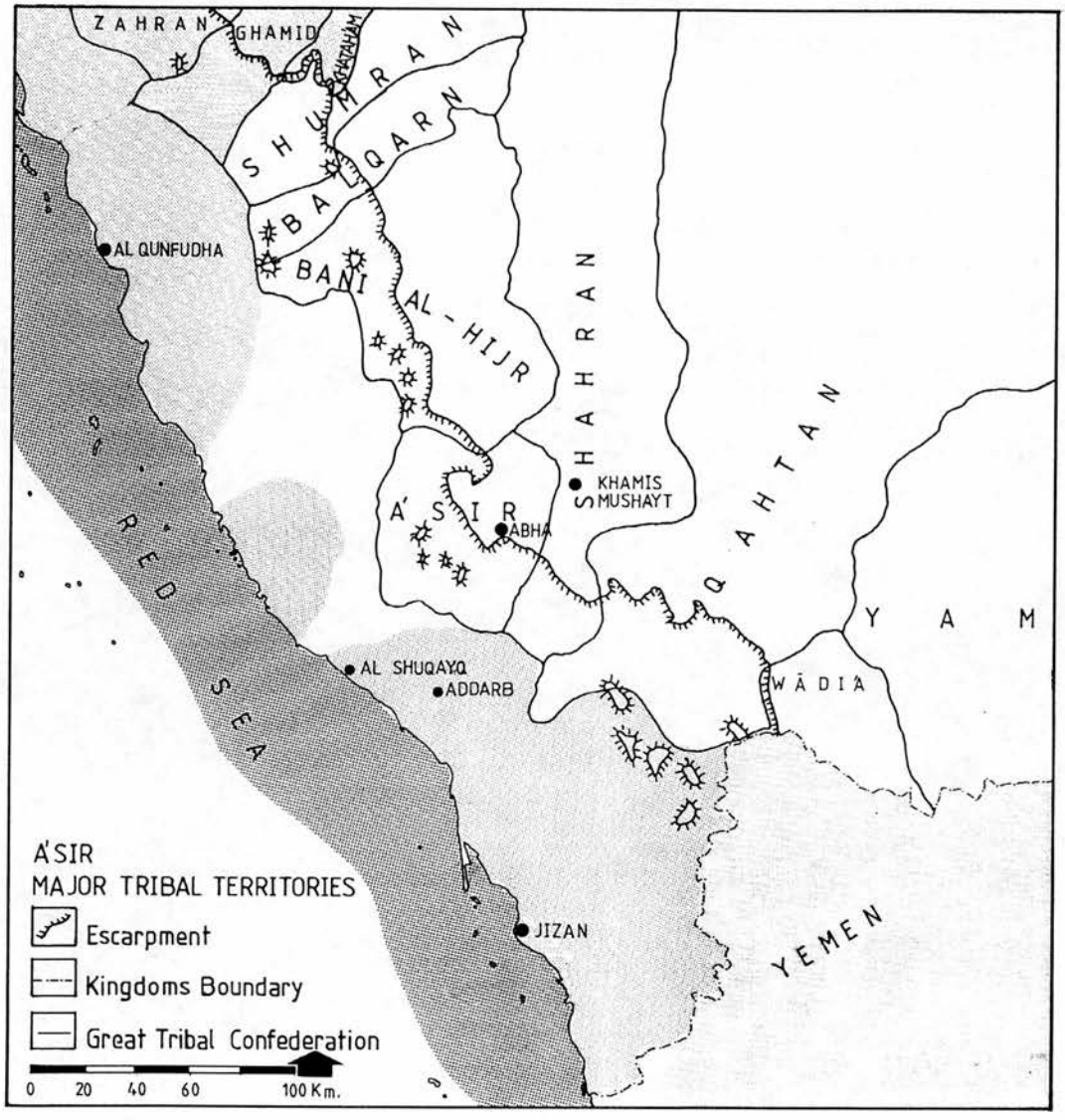
The main character of topography in 'Asir is represented by a series of mountains called ***Surat 'Asir*** which are a part of the Sarawat mountains. These mountains extend some 1700 Km. from **Jordan** in the north to the **Yemen** in the south, becoming wider towards the south. Here they extend from some 120 to 200 Km. in width including the mountains of the **Tihamah.** Most of 'Asir is located in the higher land which gives this area a unique character relative to the other parts of the kingdom.

Generally, the mountains gradually rise from ***Beny Amro*** in the north to the **Yemen** in the south. The highest point is represented by the mountain of ***Al- Soudah*** (3133 m.), and falls gradually to ***Aqabat Al-Alab*** near **Yemen** (2490 m.). This high land is known locally as ***As-Sarat.*** The mountains are the major distribution for rain water between valleys which flow westwards to **Tihamah**. Most of this area is divided by several west to east valleys such as **Wadi Bishah, Wadi Tallyath**.

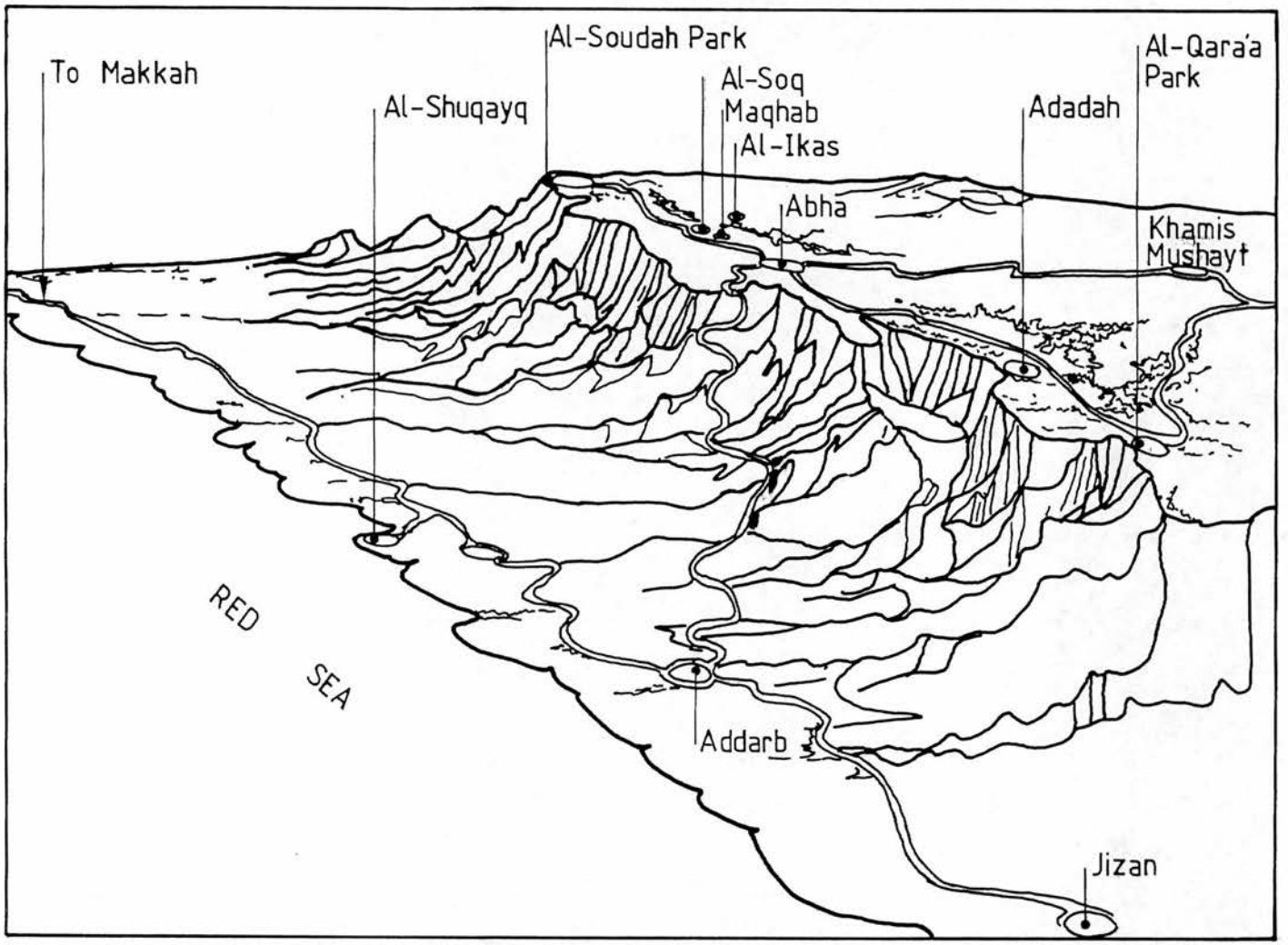
The mountains are also characterised by a very steep and sharp escarpment in the west, falling towards the **Red Sea** . This escarpment resulted from the breaking edge of the land in the late Tertiary. Thus the **Tihamah** mountains which resulted from the fault have very steep slopes with height between 200 to 2292 metres.



(Figure 3.1) 'Asir Location
Map Adapted from:'Asir Heritage and Civilization. Sponsored by the Government of 'Asir. Riyadh: Obeikan Co. for Printing and Publishing, 1987, P 16.

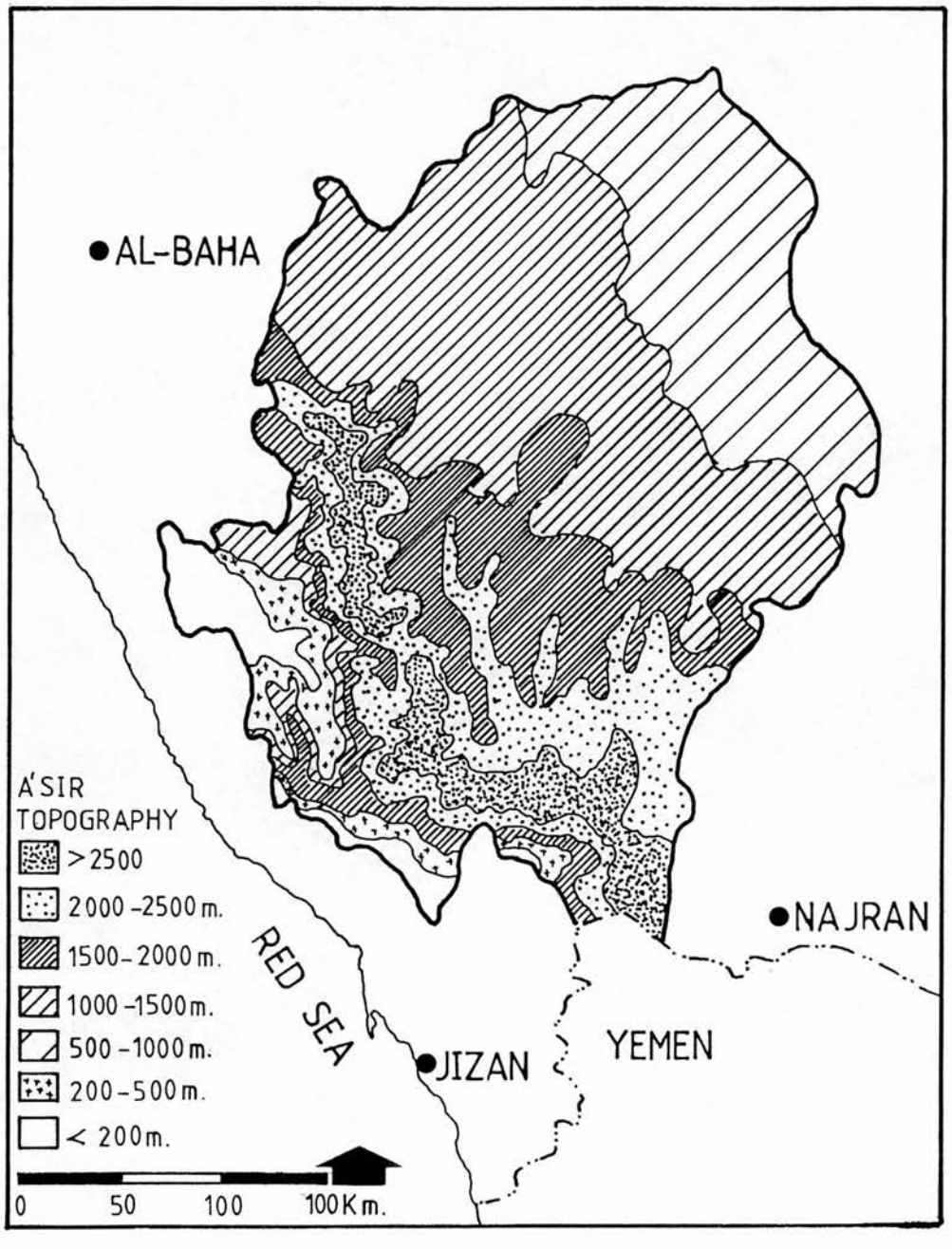


(Figure 3.2) 'Asir Tribal Territories
Map adapted from Abdulfattah, Kamal. Mountain Farmer and Fellah in 'Asir Southwest Saudi Arabia: The Conditions of Agriculture in a Traditional Society. Erlangen: Kommission bei Palm and Enke, 1981, Map no.5.



(Figure 3.3) Topographical Setting of 'Asir Region

Adapted from The Tourist Guide of 'Asir Area, (Arabic). Prepared by The Ministry of Information, Kingdom of Saudi Arabia: Al-Abaikan Co. for Printing and Publishing, P 29.



(Figure 3.4) 'Asir Topography
Map Adapted from Haidar, Ahmad Muhammad. Agricultural Geography of the 'Asir Region, (Arabic) Abha Literature Society: Abha, Saudi Arabia, 1987, P 41.

1.2- Geological Composition

The history of geology and the structure of the area, from **Syria** in the north to **Yemen** in the south is summarized by Abdulfattah (1981) as follows:

> ***"In the late Tertiary and in the Quaternary this ancient crystalline block of granite, gneiss, and schist was subjected to a very complicated pattern of continental drift, lifting and faulting, that resulted in the formation of a vast system of rifts and faulted land extending from North Syria to South Africa. The Red Sea and it's shorelands are only a part of this system. During this process Southwest Arabia was uplifted from the south and west, dipping gently to the north and east. The faulting was not restricted to the area of the Red Sea and was not only of an Eryterian direction... It was much more widely spread over the study area, affecting both the western and eastern slopes of the uplifted block and dissecting in some cases with east-west (Aden direction) faults. One special formation of the old crystalline block is a series of old faulted rocks among more massive rocks that stretch from the 'Asir Tihamah northwards, towards the highlands... This north-south system of old faulting, probably Paleozoic age, is intersected by the later north and north-west and south and south-east rift escarpment. Subsequently, erosion led to the formation of the many parallel longitudinal ridges which characterize the central parts of the hilly Tihamah of 'Asir. Volcanic activity added to this structural confusion..."***[3]

These volcanic Harrah(s) are common in the study area in the form of crystalline rocks or individual volcanic mountains which are found in the coastal plain. However, the general formation of the whole area starting from the Red Sea to the **Al-Rubi' Al-Khali** can be simplified as follow: (figure **3.5**).

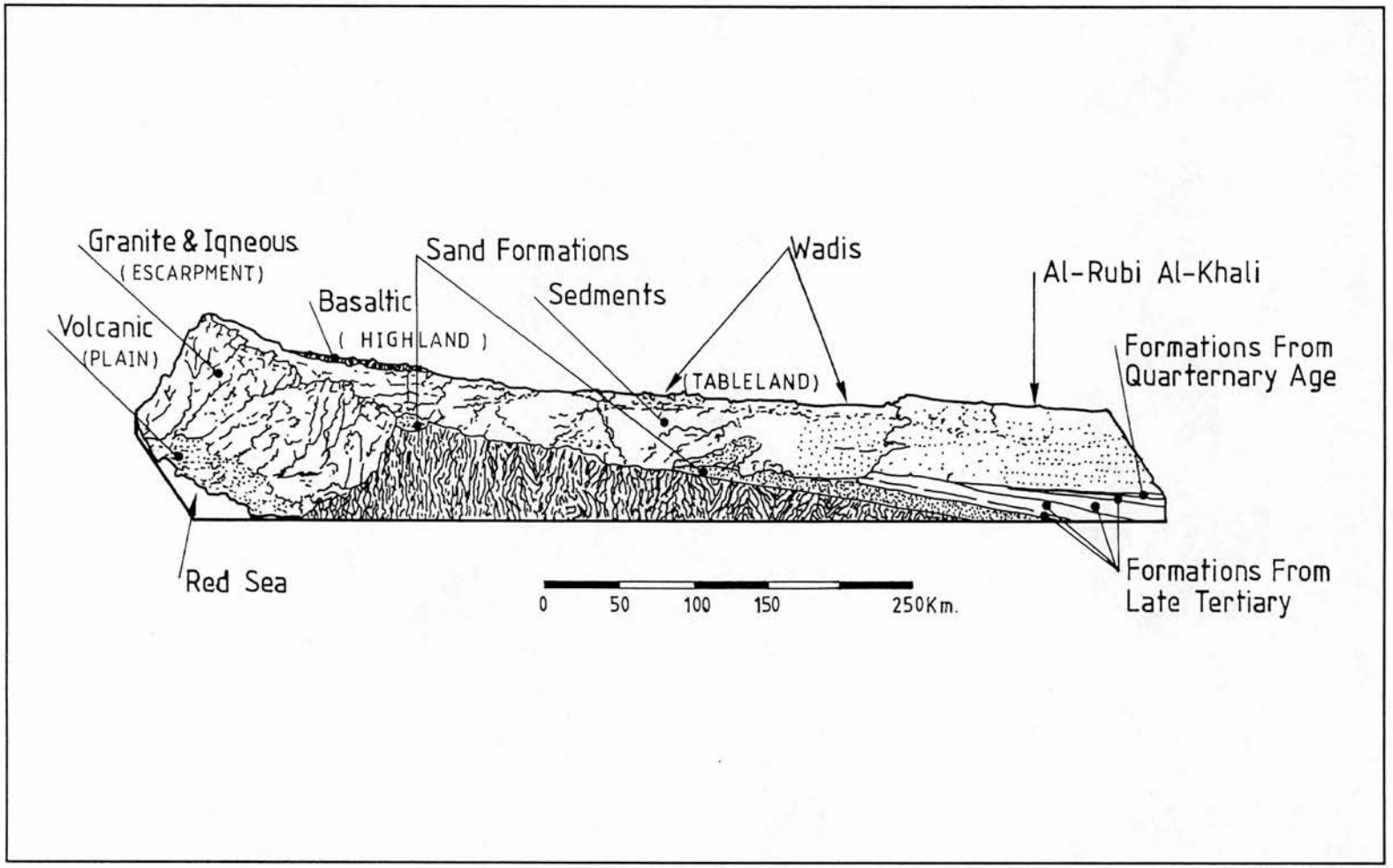
- The plain generally has a surface of loose sands resulting from the deposits of the ***wadis*** descending from the escarpment. A continental shelf, boarded by coral reefs which are not continuous because they are intersected by the ***Wadi*** flood plains and a volcanic ***Harrah*** (these can extend to the Red Sea in some areas beyond the hills of **Tihamah**).

- The escarpment of the area from the coastal plain to the hills of **Tihamah**, and to the top of the sharp escarpment consist mainly of granitic intrusion and hard igneous rocks.

- The Highlands: These mountains are made of massive crystalline rocks on the surface; and a granite base with a cover of sandstone or basaltic layers with sediments in depressions within the basement rocks.

- The Arabian tableland is a smooth, undissected plateau covered partly by the vast sands of ***Al-Rubi' Al-Khali.***

In this section, however, the research will concentrate on 'Asir region and its land formation, to enhance the database of the study area. In this region, the majority of mountains consist of metamorphic granite, with volcanic ***Harrat*** of basalt in some other areas. In the northern and the central parts, which ends at **Sha'af Tamniya,** south of **Abha**, surface rocks are mainly massive crystalline in type. In the southern part, from **Sha'af Tamniya** southwards, the basement rocks are granite with a cover of sandstone or basaltic layers. Both give the mountains a tabular appearance because the sediments are stratified almost horizontally over the basement rocks (figure **3.5**).



(Figure 3.5) Section in the 'Asir Area

Diagram Adapted from Haidar, Ahmad Muhammad, 1987, P 37.

1.3- Climate

Metrological data about the climate of 'Asir is poor. Also, the area of 'Asir can not be assimilated with other areas of the Kingdom of Saudi Arabia because of it's topography and the altitude above sea level. The height and surface configuration of 'Asir make it a unique climatic region in Arabia. In the high mountainous areas, the effect of altitude far overweighs that of latitude. The temperature in 'Asir decreases by three degrees Fahrenheit every 300 m. above sea level . Thus the maximum temperature reaches 80 F° (27° C) at an altitude over 2600 m. above sea level. This leads the region to have moderate temperatures even in the hottest summer months .The average temperature in 'Asir and **Abha** in the months of September range from 20° C - 25° C, falling down to 9° C in January and 15° C during the rest of the year (figure **3.6**).

Therefore, the seasonal weather pattern for 'Asir is unstable because it lies in a transitional zone invaded by different air masses at different times of the year. This complicates the precipitation pattern. The diverse topography of the region adds to this complication. In the winter, 'Asir -and especially it's northern parts- come under the influence of northwesterly winds which are channelled into the Red Sea channel, and then diverted towards the escarpment, giving sporadic rainfall. There is much more rain on the northern than on the southern parts. **Baljurashi** (figure **3.7**) in the north has 40% of it's yearly rains in December, January, and February. This percentage decreases in ***Ballasmar*** (in the central part) to 30%. In **Tamniya**, more to the south, it is 24%. In **Jabal Fayfa**, in the extreme south, it reaches as low as 12%.

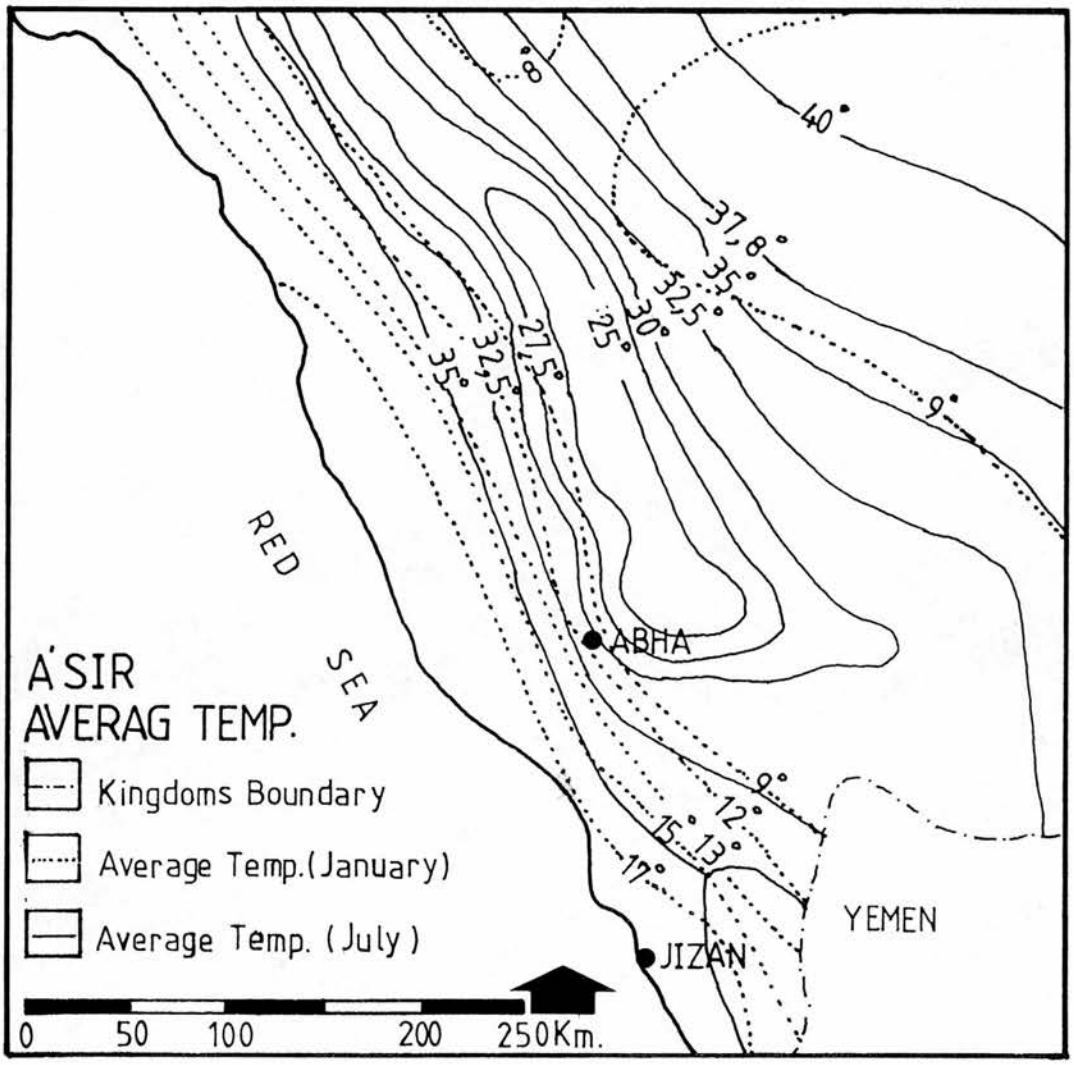
The Summer rains, on the other hand, are much more abundant in the southern parts than in the northern ones. The effect of these "monsoon" winds is greater. The rains of June, July, and August bring up to 47% of the yearly precipitation in **Jabal Fayfa,** and 52% of the rain of **Abu Arish**. Moreover in the late autumn and spring, some rain also falls upon parts of 'Asir[4].

One important factor that gives this area such a richness in natural vegetation and agriculture is the Rainfall. Indeed the highest rainfalls of Saudi Arabia are registered in 'Asir Region, because of their high altitude in relation to other parts of the Kingdom. This area receives more rain and particularly enjoys abundant summer rain. This gradually decreases northwards, usually ceasing at **Wadi Hila**. Most of the rainfall is on the steep western slopes of the **Al-Sarat** mountains, diminishing towards the interior (figure **3.7**).

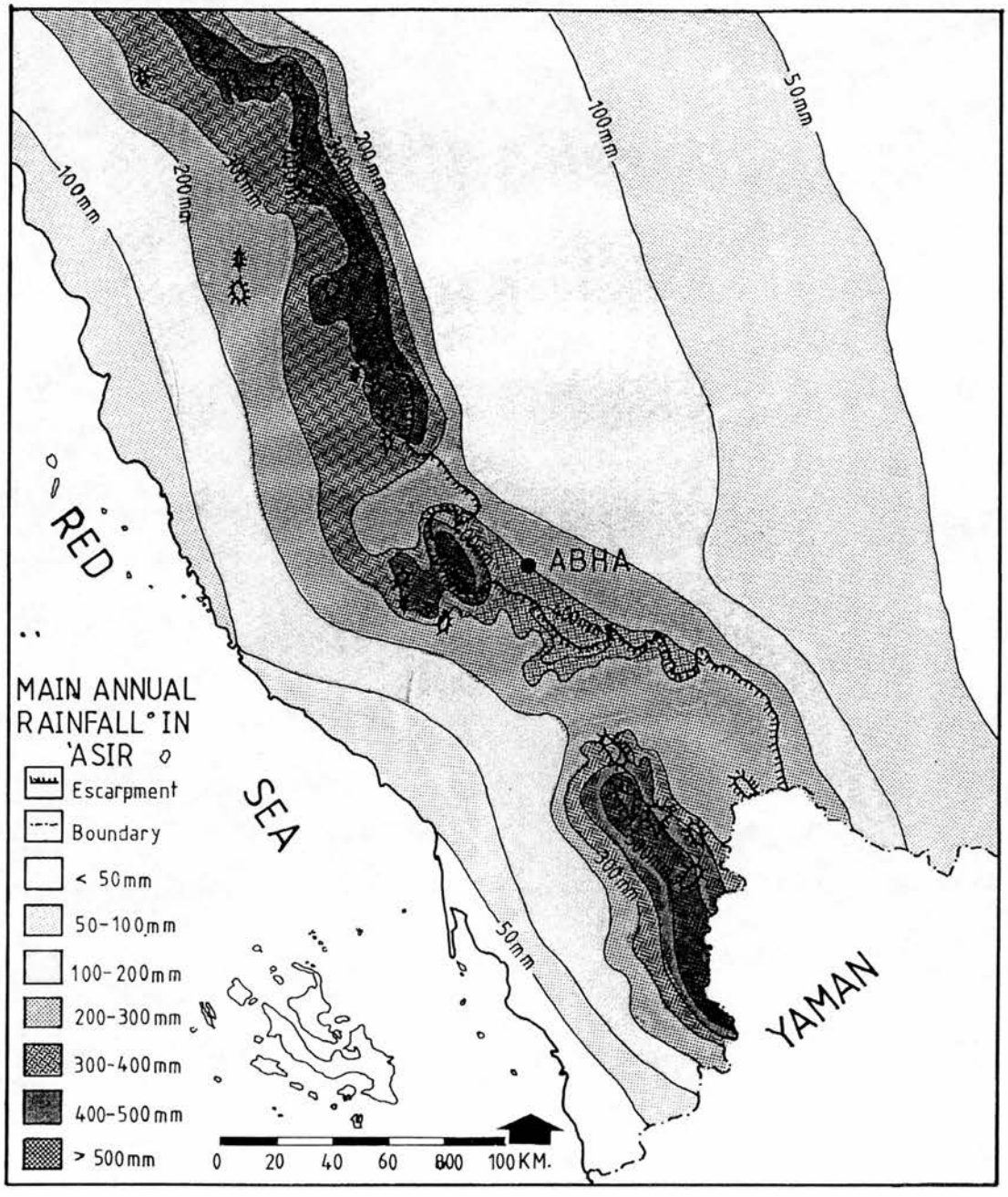
The rainfall in the lower part (**Tihamah**) is irregular and low, except in ***Jaizan*** on the Red Sea. Rain usually falls in the afternoon. 'Asir's day time begins with bright sunshine and a clear sky until the afternoon. It is usually then that clouds begin to form, and light to heavy showers begin to fall (sometimes as light drizzle after sunset). This sequence of climatic changes usually commences with clear skies towards mid night.

Such personal observations also indicate that rain in 'Asir can fall at any time of the year. The summer rain is considered as the largest portion of the total annual rainfall, particularly in the mountain areas which are directly exposed to seasonal winds from the west and the south. In winter time, fog rises from the valleys of **Tihamah** and accumulates on the upper level of the mountains, obscuring the sky and reducing visibility to a few meters .The fog may continue for a number of days before it finally disperses.

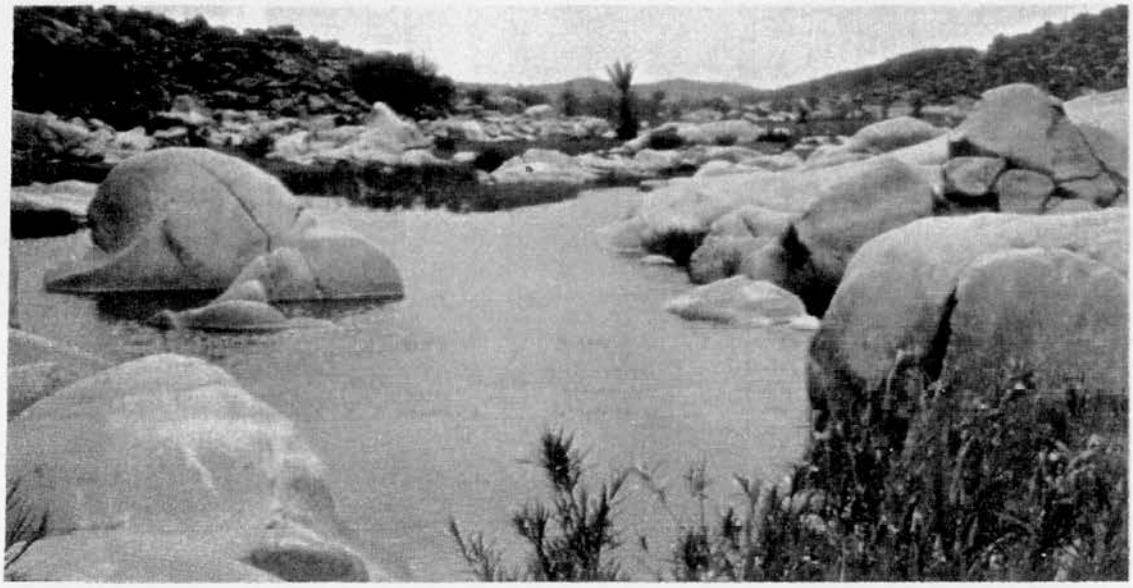
It is to be noted however, that any amount of rain fall in the entire region, immediately results in the formation of temporary ponds and shallow water surfaces, especially in the lowlands and wadis in cases of heavy rainfall, which is the norm of the region, these ponds grow to the size of mature lakes that remain usable as a water source for months. Areas around Abha, and those like ***Al-Qar'aa*** to the south of Abha are famous for such lakes. These lakes allow the growth of some types of natural vegetation which will be discussed later in the chapter (figures **3.8** and **3.9**).



(Figure 3.6) Average Temperature of 'Asir
Adapted from Haidar, Ahmad Muhammad.1987, Pp.48-49.



(Figure 3.7) Main Annual Rainfall in 'Asir
Adapted from Abdulfattah, 1981, Map. 3



(Figure 3.8) Ponds occur in parts of the lowlands
Abulfatih, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984, P 20.

(Figure 3.9) Flooding on the terraces and valleys can destroy farms
Abulfatih, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984, P 20.

1.4- Flora and Fauna

Vegetation

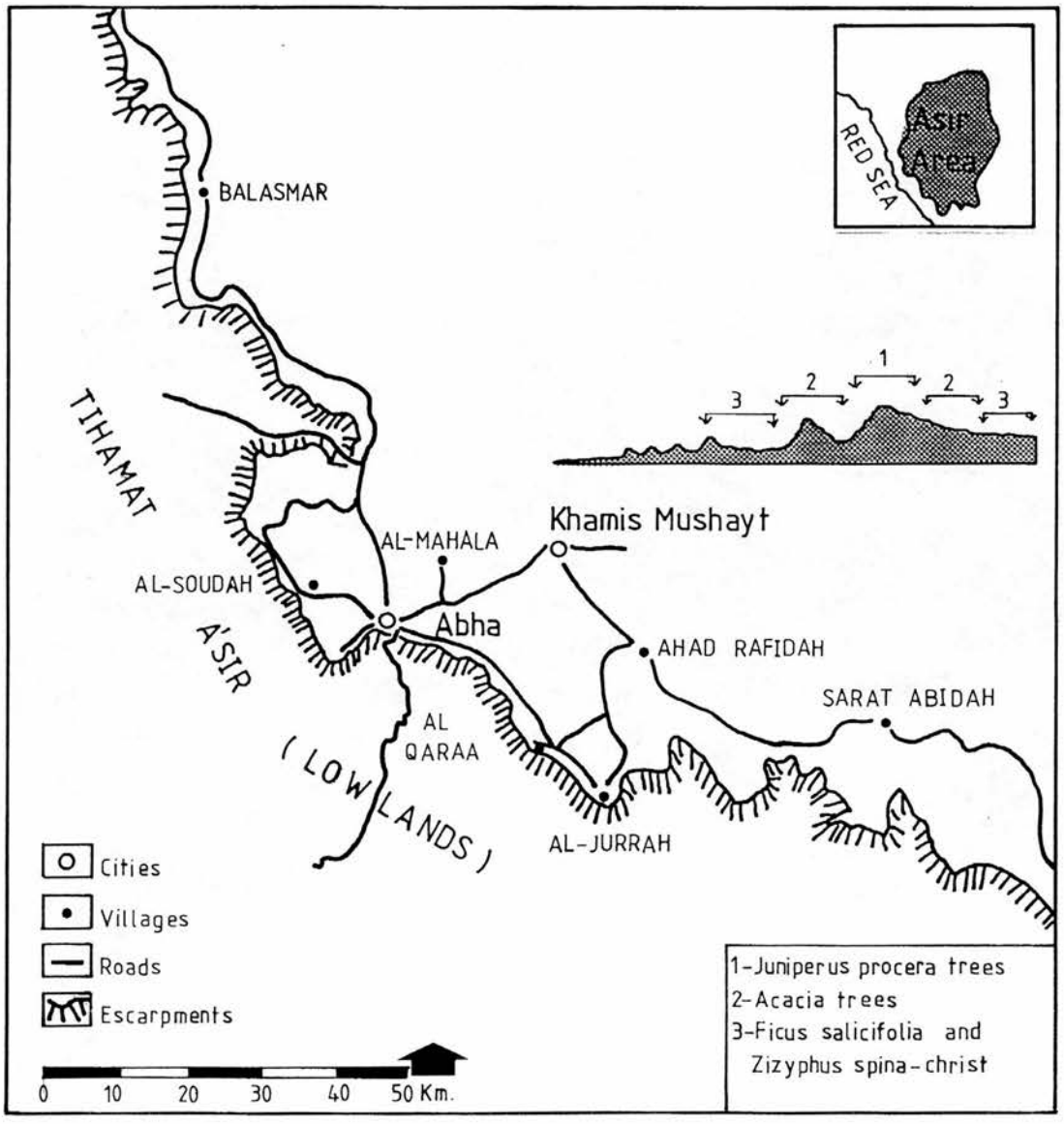
As an agricluture-dependant community productive trees, flowers, fruits, and grass are of vital importance to the livelihood of the villages of 'Asir. As mentioned earlier, 'Asir is one of the most fertile areas of Arabia. The rich soil and the abundant amounts of annual rainfall, combined with a relatively mild climate, all contribute to the diversity of the natural vegetation of the region. However, the need for agricultural products led the inhabitants to develop different methods for the production of their needs,which have resulted in a unique blend of nature and human-made landscapes.

The type of vegetation in 'Asir varies with altitude. The severe undulation of land surface allows for the production of many kinds of communities, natural and commercial. The local practice of land-use, mainly for agricultural needs, which have changed from one period to another further enhance the variety of the agricultural products of the region. These can be divided into two main categories: natural vegetation and agriculture.

A- Natural Vegetation

The main type of plant under this category is Juniperus procera (***"ar'ar trees***) which tends to grow in humid, cold climates. A number of other species also grow and are used for different purposes by the inhabitants of the region. For example, Acacia trees (***Al-t'lah trees***) are widely distributed around the east and west areas of the highlands. Ficus salicifolia (***Al Zar'rf***) and Zizyphus spina-christi (***Al-sader trees***) communities are fairly common in the lowlands. On the very steep slopes, other

communities can be found, especially hydrophytes communities located by lakes, ponds, and streams (figure **3.10**).



(Figure 3.10) Main Natural Vegetation
Abulfatih, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984, P xi.

The following table (table **3.1**) summarizes the prevailing types of natural vegetation of the region:

Plant name	Family name	Location in the region
- Tamarix Sp.	Tamaricaceae	Along Mahala Wadi
- Juniperus procera	Cupressaceae	In cold humid places on escarpment
- Anisotes trisuleus	Acanthaceae	Scattered western slopes
- Calotropis procera	Asclepiadceae	In sandy warm habitats
- Euphorbia schimperi	Euphorbiaceae	Common in the rocky habitat
- Cadia purpurea	Leguminoseae	Found in the warm valleys
- Ficus palmata	Moraceae	On hills of large boulders (Abha)
- Ficus vasta	Moraceae	Rare plant scattered over the area
- Ficus salicifolia	Moraceae	Warm valleys to the south of Abha
- Olea europea	Oleaceae	Small community near Abha
- Adenia venenata	Passifloraceae	Warm areas in rocky lowlands
- Dodonaea viscosa	Sapindaceae	Cool humid habitat & igneous rocks

(Table 3.1) Examples of the natural vegetation in 'Asir Region.

Adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

Flowers (Al-Azhaar)

'Asir is also famous for the natural beauty of the other species of flowering plants. Such plants can be classified in two parts according to the growth season of each specie as follows (tables **3.2, 3.3, 3.4** and **3.5**):

Winter flowering season:

Plant name	Family name	Location
- Potamogeton perfoliatus	Potamogetonaceae	In water of one meter depth
- Potamogeton nutans	Potamogetonaceae	In water of one metre depth
- Potamogeton nodosum	Potamogetonaceae	In water of one metre depth
- Cadia purpurea	Leguminoseae	Found in warm valleys

(Table 3.2) Winter flowering season of some natural vegetation in 'Asir Region

Adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

Spring flowering season:

Plant name	Family name	Location
- Asphodelus fistulosus	Liliaceae	Scattered on unused lands
- Juncus punctorius	Juncaeae	Wet lands, ponds & streams
- Pennisetum villosum	Gramineae	In moist places
- Tetrapogon villosus	Gramineae	In sandy, rocky habitat
- Pennisetum setaceum	Gramineae	In sandy, rocky habitat
- Bromus tectorum	Gramineae	In moist places
- Crinum yemense	Amaryllidaceae	Hilly rocks

(Table 3.3) Spring flowering season of some natural vegetation in 'Asir Region

Adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

Summer flowering season:

Plant name	Family name	Location
- Typha domingensis	Typaceae	In shallow ponds & water streams
- Cucumis prophetarum	Cucrbitaceae	On warm slopes
- Citrullus colocynthis	Cucurbitaceae	Near farms and unused lands
- Onopordon ambiguum	Compositae	In moist places
- Kleinia Odora	Compoitae	In rocky hills

(Table 3.4) Summer flowering season of some natural vegetation in 'Asir Region

Adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

The following (table **3.5**) is a summary of some natural plants of major importance to the inhabitants of the region of 'Asir. These are plants that were used for medical purposes (a practice known as traditional/popular or Arabic medicine = or ***tib sha"bi/ Arabai/***).

Plant name	Family name	Local name	Location	Medical use
Citrullus colocynthis	Cucurbitaceae	Al-Handhal	Disturbed ground	Diabetic,abortion
Ziziphus spina-christi	Rhamnaceae	Sidir	Warm places	Hair remover
Juniperus procera	Cupressaceae	"Ar'ar	Highlands	Eye care
Ricinus communis	Euphorbiaceae	Khirwa'	Sandy soil	Diarrhoea
Olea europea	Oleaceae	Al-Itim	Highland	Bandage for Broken legs
Rumex nervosus	Polygonaceae	Ithrib	Rocky habitats	Diabetics
Dodonaea viscosa	Sapindaceae	Shath	Igneous rocks	used for tanning
Peganum harmala	Zygophyllaceae	Harmal	Sandy habitats	Diarrhoea

(Table 3.5) Natural plants that are of major importance to the inhabitants of the region of 'Asir

Adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

B- Agriculture

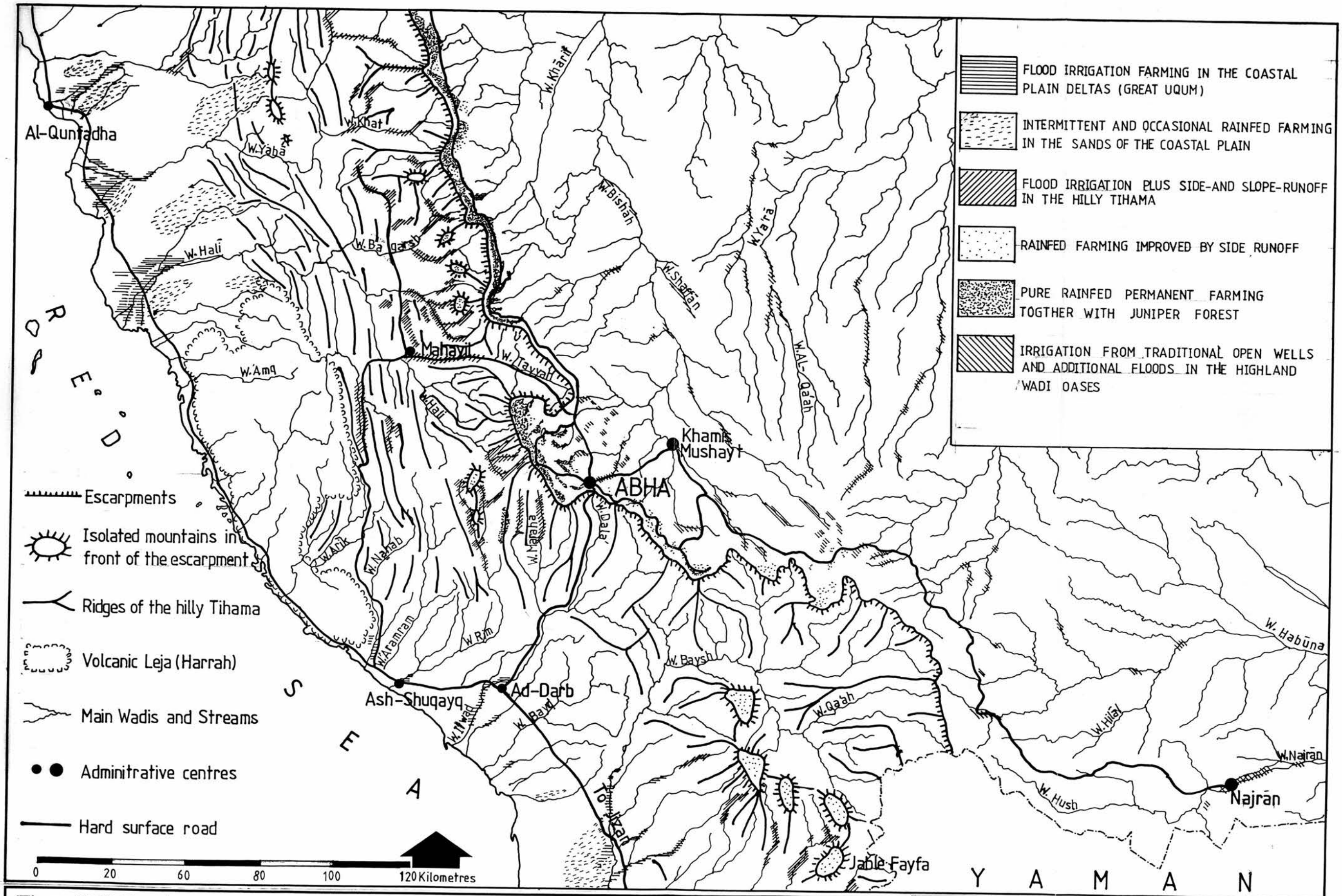
Topo. Zone	Agricultural Product	Field	Type of Irrigation	Season
		CROPS		
The Eastern Plains	Sorghum (Dura)	all over	spring and summer rains	summer
	Wheat	eastern wadis oases	rainfed crop	winter
		FRUIT TREES (FAKHAH)		
	Grapes, Apricots, Plums, Almonds, Pears, Figs, nuts, pomegranates	wadis of eastern slopes	wadis flow, and wells	summer, and spring
	Date Palms	wadis oases	rain flow on wadis	summer
		CROPS		
The Highlands	Sorghum (Dura)	all over	spring and summer rains	summer
	Wheat	terraces	rainfed crop	winter
	Barley (Sha'aer)	terraces and wadis fields	runoff	winter
	Alfalfa (Barseem)	wadis oases	permanent irrigation	all over
		FRUIT TREES (FAKHAH)		
	Grapes, Apricots, Plums, Almonds, Pears, Figs, nuts, pomegranates	mountains basins	wadis flow, and wells	summer, and spring
	Olive	scattered	rainfall	summer
		CROPS		
The Escarpment	Sorghum (Dura)	all over	spring and summer rains	summer
	Wheat	terraces	rainfed crop	winter
	Barley (Sha'aer)	terraces	rainfall	winter
	Alfalfa (Barseem)	wadis oases	permanent irrigation	all over
	Coffee (Qahwah)	terraces	rain flow	
		FRUIT TREES (FAKHAH)		
	Banana	fields	rain flow of wadis	
	Lemons	fields	rain flow of wadis	
	Papaya	fields	rain flow of wadis	
	Date Palms	wadis oases	rain flow on wadis	summer
		CROPS		
The Coastal Plains	Sorghum (Dura)	all over	spring and summer rains	summer
	Dukhun (Bulrush millet or penisetum)	on sand	heavy showers	

(Table 3.6) Overall view of the Zones production

This category includes the production of the major food crops, which remain the dominant type of plantation in the region. For example, various sorts of grain, wheat, barley, sorghum, and dukhun ***(Bulrush millet or penisetum)*** are still grown in 'Asir. Various other types of agricultural products are also grown. These would include lentils, beans, sesame (an oilseed), and alfalfa. Fruit growing was introduced to the area recently (the late 1970's) on a small scale. All these agricultural products tend to differ in type and quality from one topographical location to the other. The difference is mainly between the lower and higher altitudes. (See figure **3.11**)

For example, in the wadis of the hilly Tihamah, banana and lemon, together with papaya are grown in moderate temperatures. In the mountains and the highlands, fruit is grown in varied conditions. For instance, in warm temperature zones, grapes, apricots, plums, almonds, pears, figs, pomegranates, and nuts are grown. Horticulture is concentrated in the mountain basins or terrains (the flat surface of the wadi) of the wadis. Unlike the other agricultural regions of Arabia (e.g., the city of **Al-Madinah** to the far north of Abha), Date-palms grow on oases in the highlands, up to an altitude of 1800 metres. The famous dates of the city of Bishah are the product of such altitudes. Coffee is also cultivated in the escarpment front and in the higher Tihamah mountains.

Amongst the most popular of agricultural products in the region are vegetables. A variety of types (e.g., onions, garlic, cucumber, melons, and radish) are grown in different locations of the region. In the past century, some other types such as tomatoes, okra, and cabbages were introduced by the Turks for the consumption of their garrisons. Also due to the growth of agriculture awareness and advanced agricultural methods that accompanied the development of the Kingdom of Saudi Arabia, in the past decade some new species of vegetables have been introduced (e.g., potatoes, cauliflower, and carrots). The following is a closer look at some of these productive plants that have contributed to the emergence of communities in the region for the purpose of producing these plants:



(Figure 3.11) Farming Types in 'Asir (Adapted from Abdulfattah, 1981, Map 4)

Sorghum (*Dura*):

- It is the most popular of products as far as farmers (***muzari'in / fallahin***) are concerned. The natural tropical environment of the region led to the wide expansion of this type along with a number of local varieties. ***Dura*** occupies 60% of all of the cultivated land of the region.

- It is a summer crop that is found in the mountainous area and the highlands according to the local conditions such as sufficient spring and summer rains.

- Its growth altitude varies from sea level up to 2700 metres above that level.

- In some areas sorghum is the backbone of the subsistence agriculture such as in the Tihamah area where the bread is made daily.

- Its produces animal fodder from the green leaves and the stems and a fuel and hut-construction material from the stems.

***Dukhun* (Bulrush millet or penisetum)**

- Mainly grown in the sand of the coastal plain whenever there are heavy showers.

- Growth requirements are less water, poor soils and less care.

- Needs little initial work for its growth , less maintenance and supervision and less investment in effort generally.

- Its also used as an edible cereal by many of the inhabitants in the Tihamah.

Wheat (*Hab*)

- It is the main winter crop that occupies about 85% of arable land in the escarpment mountains and in the eastern slope as well as in the eastern wadi oases and in the higher parts of the Tihamah mountains that reach 1600 metres above sea level.

- It grows in the areas that have a annual precipitation of more than 350 mm. With irrigation in the drier southern parts of the escarpment as well as in the wadis oases, its growth has become also possible.

- Higher altitudes gives higher percentage of the cropland which reach to 95% per year.

- Locally it is the main foodstuff in some areas such as in the escarpment and in the highlands. It is locally preferred to the imported wheat of Europe or Canada.

- Although it is mainly a winter crop, it is also grown in the summer in small areas with the help of irrigation systems.

- This crop is stored in houses and chaff used as an animal fodder.

Barley (*Sha'aer*)

- It is a winter crop that requires less water. It also endures higher temperatures.

- It is not very popular among the inhabitants of the mountains and the highlands.

- It is grown in the marginal areas of wheat fields at altitudes of 1200-1600 metres above sea level (the Tihamah mountains).

- It depends on the rainfall and slope runoff such as in the drier parts of the eastern slopes.

- While it was used traditionally for human consumption in the Tihamah area, it is now an animals fodder .

Alfalfa (*Barseem*)

- It is grown all around the year as it does not require extensive irrigation. As an agricultural product, it remains in the ground for 3 to 5 years.

- It is grown almost everywhere in the region, especially along the escarpment mountains and the upper highlands, as well as the wadi oases (where permanent irrigation is possible).

- Its importance to the inhabitants lies in its potentiality as an animals fodder for cows, oxen, and young lambs.

- It is grown in small plots of lands and has the advantage of its capacity as a legume in enriching the soil with nitrogen.

Coffee (*Qahwah*)

- Its growth limitation ranges between 1300-1700 metres above sea level, along the escarpment facades and on the high mountains of Tihamah.

- It is grown in small plots of land in the higher lands which tend to be larger in some areas of Tihamah wadis.

- The coffee production of 'Asir is widely used by the neighbouring towns and cities. It is considered by the inhabitants of the entire region to be the 'best in the whole world'.

- Its irrigation system depends on the rain flow on the terraces with sizes from 2 to 3 metres in width especially on the escarpment.

Fruit trees (*Fakhah*)

- These are grown in both the lower and higher altitudes up to 1550 metres above sea level, with different varieties.

- Access to areas planted with fruit is very restricted by the locals against any trespassing, especially in the horticulture areas. They are mainly grown for local consumption.

- The growth of some fruit in the hills of Tihamah wadis, such as bananas, requires a continuous flow of water. However the wadis concentrate on the growth of lemons.

- A variety of horticulture occurs in the upper lands, the most popular of which are apricots, local figs, and pomegranates. These have been grown in the region for centuries.

Date palms (*Al-Nakhail*)

- It is the main and most popular fruit in Arabia. In this region particularly, it is very much appreciated by the inhabitants. Its socio-cultural connotation as a symbol of the nation as well as that of generosity and hospitality contribute further to its popularity.

There are also some religious and cultural beliefs that association with the trees of paradise makes a date-palm a sort of sacred plant.

- It grows in the low lying wadis oases between 800 to 1750 metres above sea level. The most famous area of its production is the city of Bishah which represents more than 70% of the production of the region.

- It does not require an extensive system of irrigation, for it depends on ground-water and natural floods.

- Beside its advantage as foodstuff and delicacies for the local inhabitants, the use of its leaves, together with those of doom palms, - to make mats, huts, baskets, and many other things, made it amongst the most useful of agricultural products of the region (the tents of the nomads of Tihamah are made of date-palm leaves).

Vegetables (*khdorah)*

- These have been introduced to the area recently (20 years ago), and they include onions, garlic, white beans, radish, melons, cucumbers, and one kind of spinach. However, such as carrots, potatoes, and artichokes were only introduced some 13 years ago.

- The expansion of the cultivation of vegetables is proceeding very quickly which is expected to cause major changes in the economy of the large cities.

Olive (*Zaytoon*)

- Again it is one of the more popular agricultural products of the region. It is grown at altitudes of 1500 metres upwards, on both the western and eastern slopes of the escarpment.

- The widest spread of the olive trees can be found in the wadi ***Al-Qabqab*** and wadi ***Al-I'tim.***

- One of the reasons for the limited growth of this plant in the region is that it requires a large flow of water, up to 400 mm of the rainfall, which is not common throughout the region.

C- Fauna

Livestock

The domesticated animals of 'Asir represent another source of income to the area. Sheep, goats , camels, cows and poultry are more than essential to the livelihood of the inhabitants because of their production of dairy products, eggs and meat. Beside these, their use for agricultural purposes (i.e., soil digging/loosening, cultivation and fertilizing) makes farming without animals an impossible vocation. Oxen are used for drawing water from wells, ditches and low lands (***saqiyah***). They are also used for transporting goods and people. (figures **3.12** and **3.13**).

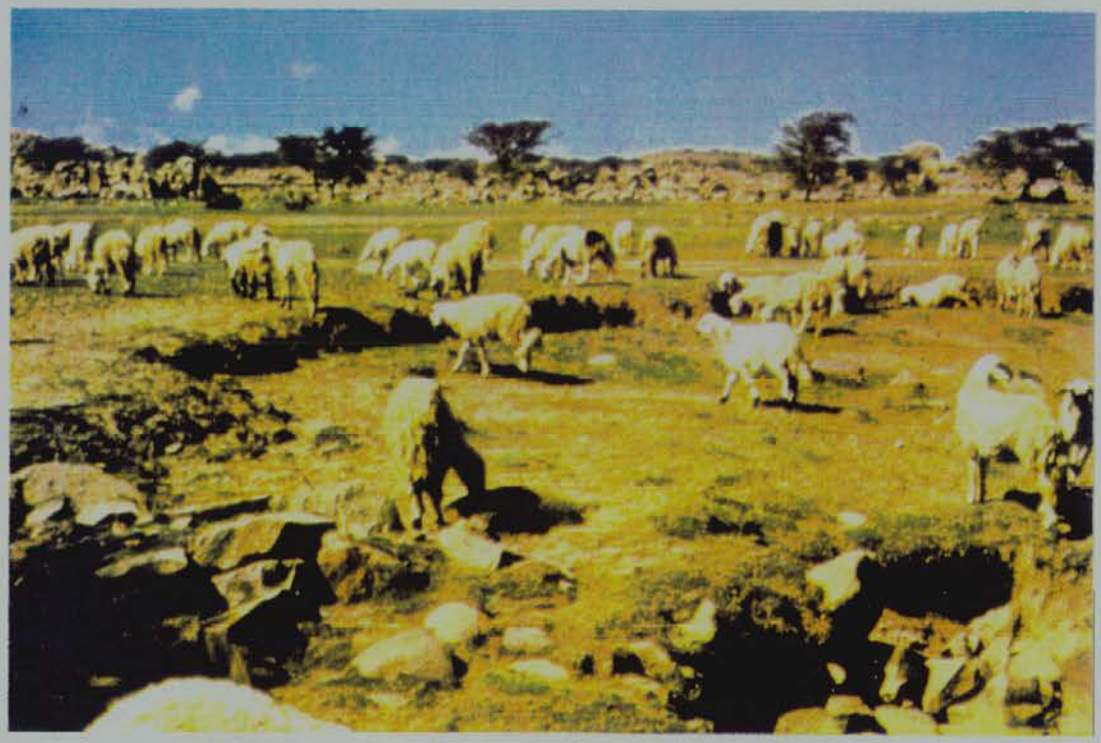
Cows and other milking animals were kept inside the house because of their value to the livelihood of the farmers, while the rest (i.e., sheep) were kept outside the house in fenced yards. Poultry, however is considered to be a new introduction to the region. These were also kept inside the house.

Bees:

Bees were domestisized in 'Asir in breeders that were constructed on house roofs and mountain slopes between juniperus trees. Because the area has an abundance of trees and flowers and it was quite natural that keeping bees become an important part of the economic system. 'Asir is famous for the quality and quantity of its honey production which is known in the Kingdom of Saudi Arabia as ***'Al-'Asal Al-Janoubi'*** or southern honey. The honey of the area became famous throughout the Arabian Peninsula and the best quality of it come from the Al-Saudah mountains and is distinguished by its dark colour and bitter after-taste. It also is used for medicinal purposes as it prescribed in the Holy Quran. Honey varies according to the different kinds of trees and flowers upon which the bees feed. It is brought to the weekly markets where the demand for it is much greater than of the imported. Among the best types are the following:

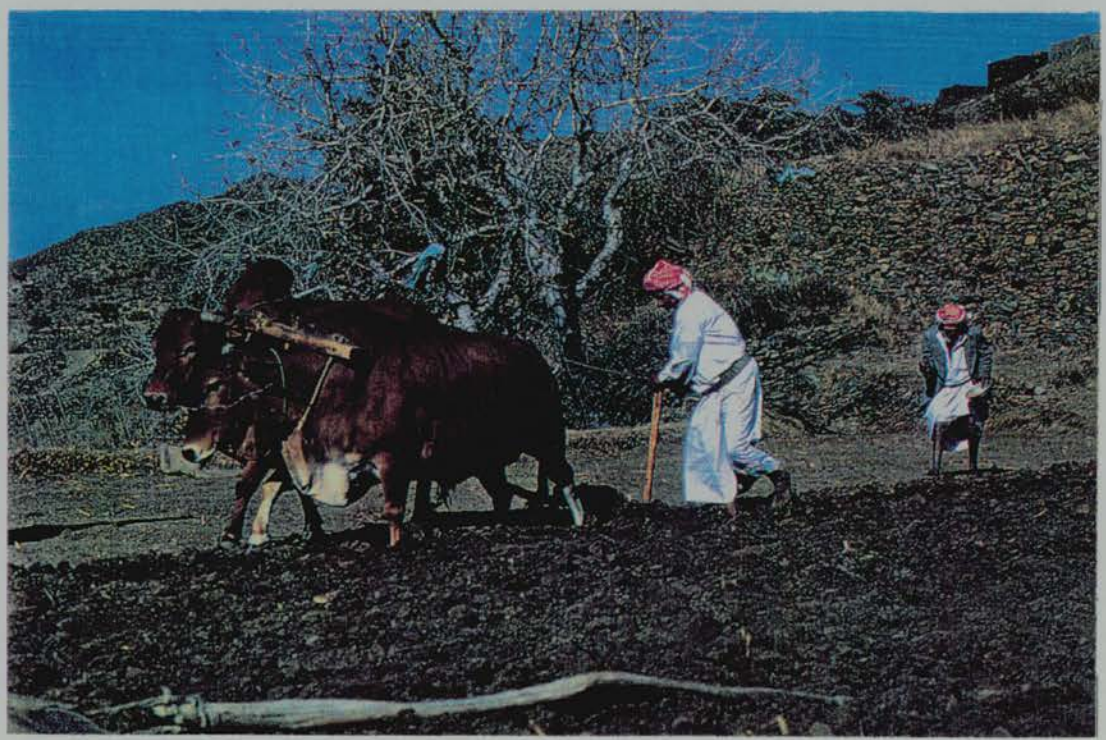
- **Al-Shawkah** Honey which is produced by bees feeding on the flowers of thorny plants such as Al-Sider, Al-Qard, Al-Silm and Al-Shabram.
- **Al-Mahrah** Honey which is distinguished by its clear white colour and is produced by bees which feed on the white flowers of Rijal Alma'.
- **Al-Majdah Al-Abiyad** which is produced from Al-Thabah trees in the Tihamah area in the winter time.

As a result of government encouragement, the numbers of beekeepers has risen up to 300 hundred beehives with 25000 hives and the annual production is 250000 kilogram of honey. The Ministry of Agricultural provides information to people on the latest ways of beekeeping and 60%, and the numbers of beekeepers rise.[5]



(Figure 3.12) Kinds of Fauna

Adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984, P 19.



(Figure 3.13) Kinds of Fauna
Mauger, Thieryy. Flowered Men and Green Slopes of Arabia, Paris: Souffles, 1988, P 142.

PART II:

2- Historical Significance:

'Asir region is one of the least known geographical areas of the world. The scarcity of material and literature about this region made it extremely difficult to study without the intensive aid of field analysis. The historical background of the area was of great interest to travellers, and to historians of Arabia. This importance was geographical, historical and cultural. The area was a gateway to the various cultures surrounding the Arabian Peninsula The continuity of the physical elements and landscape of the region is the main concern of this section. It will discuss three major issues, those of historical background, the extent and degree of change and finally the continuity of the landscape of the area.

2.1- 'Asir Historical Background

Some historical books[6] relate the name of the region to a man known as 'Asir who came from the tribe of **Adnan**, while others[7] relate the name to an ancient place known as **JRASH** located to the southeast of the main city of **Khamis Mushayt**. The name of the place was gradually changed to 'Asir which means *difficult* or *harsh* in Arabic due to its topography: high mountain peaks, rocks and deep valleys. **Fuad Hamza** (1968) points out in his book "**Fi Bilad 'Asir**" that the name ***'Asir*** is relatively recent, for it was known in ancient times as **bilad al-surat,** followed by the name of the tribe which occupied a certain area. For Example, **Surat 'Anz** refers to the territory of the **'Anz** tribe and so forth. Therefore, the term **Surat 'Asir** might indicate the territory of a certain clan or a description of the whole region.. Another historian, **Al-Hasan Ibn Ahmad Al- Hamdani** (1953) in his book **Sifat Jazirat Al-Arab (characteristics of the Arabian peninsula)** deals with 'Asir and its name as well as

the city of **Abha** and the surrounding towns and villages. Most sources agreed that 'Asir and **Abha** have been a large community since the last century[8].

Some recent scientific literature -in western languages- dealt with the history of 'Asir. Amongst the most important of these books was that written by **H. St. J. PHILBY.** In his **Arabian Highlands** (published in 1976) he referred to the region of 'Asir as the Arabian high lands[9].

The name of ***'Asir*** as a tribe or a branch of a tribe has been established on the local cultural level by the people who live in the region in the form of "**Bilad 'Asir** or **Derat 'Asir**". This term means *the tribe of 'Asir* which lives in the high lands of Arabia. Therefore, when the tribes of Arabia were unified under the leadership of King Abdul Aziz in 1921, the name of 'Asir was recognized as the official name of this region[10] . The city of Abha later became its capital. Moreover, and as mentioned earlier, the name of the particular tribe who live in a certain locale would be attached to the term 'Asir for further identification of the place. For example, **Surat Abidah**, **Al-Soudah**, **Surat Al Ozed, Surat Gabalan** and so on, are names of tribes and locals at the same time[11].

2.2- Degree of the Changes

Socio-cultural Evolution of the Region

'Asir was until the early 20th century a mountainous, agricultural area with no major towns. The main reasons for this was the continuous warfare that took place between the tribes and local governments that occupied the region, and prevented the emergence of fully developed settlements. However, **Al- Hamdani**, indicates that there is consistency over time in both the settlement places and their names. When **'Asir**

became a part of Saudi Arabia in 1921 AD, such warfare ended and most of the villages came in one manner or another, under the government of Saudi Arabia, represented by ***Imarat 'Asir***[12].

This region is now following the trend of rapid urbanization enjoyed by the whole Kingdom. This means that the degree of change in 'Asir is impressive and obvious in comparison to earlier years, especially regarding governmental development and road networks. An example of this is the rapid urban growth in Abha where the population increased from 4,000 inhabitants in 1930, to 300,00 in 1974. In **Khamis Mushayt** the population increased from about 2,000 inhabitants in 1930 and about 40,000 inhabitants in 1978.

The greatest part of this increase is due to the rapid immigration from the small towns and villages in the surrounding areas to the cities of 'Asir. Peasants as well as bedouins participate in this urbanization process. The two towns of Abha and **Khamis Mushayt** each developed out of a few neighbouring hamlets along the wadi course. This rapid growth is still in process and greatly affects the social organization of the whole area as will be discussed in later chapters. However, it is possible to summarize such changes in the following points:

- Rapid growth in the major cities and the expansion of some areas resulting from the growing number of inhabitants such as in Abha and Khamis Mushayt.

- Immigration trends from villages to the cities by peasants and bedouins seeking governmental jobs in 'Asir metropolitan area.

- Such rapid growth has also affected the local architecture and other aspects of the physical environment in the small villages and towns, as well as in the main cities of 'Asir. New varieties of building materials have been introduced, most of which are nor

indigenous represented by reinforced concrete and concrete blocks, hewn stone, and even prefabricated metal and glass buildings.

- The impact of changes on the region since 1978, especially in the villages and hamlets is just beginning to appear. While the traditional house type still dominates the architectural scene, and the traditional social organization of settlements also still exists, the newly emerging towns are far from being traditional or even a close representation of 'Asir as a region with an ancient history. This situation is at its worst in the coastal plain, but also appears in the mountains and the highlands.

- After 1978, the government started to direct its attention to the region. Development real-estate banks were established to help the residents build their own houses. The lack of planning and organized supervision led to haphazard development throughout the area. The existing scattered development and alien house styles are largely the result of such deficiency of planning.

- The most visible of such architectural change is the shift in traditional domestic architectural styles from multi-storeyed small houses to one-storeyed large houses, as the former style has lost its defensive function (high houses were used as observation towers).

- The fact that nomads of different tribes began to settle down in the towns and villages of the region also added to some of the aggravated urbanization process. Bedouins shifted directly from their dwelling tents to towns such as to **Khamis Mushayt**, or even to the large cities of **Tayif**, **Makkah**, **Jeddah** and the capital **Riyadh**. A similar process of settlement can be observed among the nomads of **Tihamah**. They settle on the fringes of the cultivated lands of the flood plains, or along the wadi courses of the hilly **Tihamah**, where they can acquire some few small plots of land suitable for agriculture. Settlement in towns as a goal is also widespread among these people.

- Facing such a severe competition for cultivatable lands, the peasants and farmers of the region moved from their lands towards the major cities hoping for better job opportunities under governmental agencies or to establish some commercial activity. While such an immigration process took its toll on the urbanized areas of the major cities of 'Asir, it also left its scars on the agricultural lands of the region. Long established farms were abandoned, and families with a long history of farming were forced to leave their traditional livelihood to turn to other means of support. This social mobility of original natives was further accelerated by the influx of new families from different localities to abandoned farms. The disintegration of the social structure is evident.

- Young farmers were also drawn to large metropolitan areas by similar forces, leading the owners of agricultural land in the region to seek the aid of non-natives (non-Saudis) from all over the Muslim world to sustain agricultural production on their farms. This process not only effected the rate of production of these farms but also changed the social structure of the area as the influx of foreign labour started to emerge in what was until recently a very homogeneous, tightly-knit community. Farmers turned into landlords or governmental employees, while the land was handled by people who did not have much experience of such climatic or topographical circumstances.

- On the other hand, the introduction of mechanized agricultural techniques, artificial stock raising methods and fertilization led to the development of agricultural institutions on a very large scale. This, in turn, drew the farmers of smaller lands to join with such institutions and rent their lands to independent incoming farmers. The scale of production of these new emerging farms required a large area of land and numbers of associated buildings to house machines, labour and stock. The built composition of the area became a mixture of steel sheds and concrete buildings side by side with traditional mud houses. Terraces were removed to make space for such developments along with much of the fertile land.

- The modernization of the agricultural activities of the area was encouraged and generously financed by the government so as promote the agricultural self sufficiency of the region: yet the end products were not always satisfactory. For example, the introduction of artificial irrigation canals, while allowing water to reach further distances and cover larger areas of land, led to over consumption from natural wells: As a result such wells are no longer in use and agricultural lands around these wells have been abandoned.

In order to fully recognize the impact of such changes, one must look at the prevailing socio-cultural attitude of the inhabitants of the region as a main force of molding, changing and preserving this particular cultural landscape. By studying the continuity of this area from a physical as well as from a socio-cultural points of view, one can begin to paste the whole picture together and determine both the degree and impact of the change.

2.3- The Continuity of the Cultural Landscape

> ***"'Asir is an area of old agricultural traditions, that has been shaped through the accumulation of the experience of successive generations for almost two thousand years...The agriculture is old and fully developed, as in Yemen."*** [13]

> ***"These south Arabian highlands never suffered from bedouinization or large foreign invasions with their catastrophic effects on traditional settlement patterns."*** [14]

The landscape in 'Asir, whether physical or socio-cultural is very old and with a long tradition that calls for preservation and protection. Its traditional economy, as seen earlier, is being threatened because of the dramatic shift from self-sufficiency[15] to almost total dependance on governmental aid. However, this is not the case throughout

the region, and one has to keep in mind the areas that are still operating under traditional economies and social organization. Among these areas are a number of towns and farms that this research will look at in more detail in the following chapters.

As discussed in the first chapters of this research, what is sought here is originality and continuity of the cultural landscape of 'Asir in connection with the land. As Michael Hough (1990) observes:

> ***Much of what we found interesting and beautiful about the cultural landscape lies in what we call the vernacular. The vernacular has traditionally been described as forms that grow out of the particular needs of the inhabitants of a place and the constraints of site and climate. Vernacular forms are shaped by many forces: the determinants of nature (biophysical processes and climate); the cultural and history unique to each place and time; the role of a central authority who's decisions impose an organizational structure in the landscape. The communities that have created them seem to have had few illusions of overall destiny, long-range plans for entire regions, or visions of utopian places. They evolved from necessity, from the need to solve the immediate practical problems of shelter, town, building, and making a living from the land. " (Michael Hough, 1990).*** [16]

Accordingly, the settlements that has been selected as case studies in this research, will have to exhibit signs of heritage and continuity as well as demonstrating eligibility for preservation and protection. Not only as areas of distinct beauty, but also as areas of long living traditions that ought to be preserved for future generations and national identity.

In order to establish a general picture about the continuity of the cultural landscape of the 'Asir region, one must start examining the means of supporting such a culture. Agriculture, as the traditional economy and livelihood of the inhabitants of 'Asir was naturally supported by the natural elements of the region; the location and the

topography of the area, along with suitable weather, higher rainfall and suitable soil all of which were there from times immemorial. The variable in this equation remains the people and their activities.

The inhabitants of the region, who chose to live in this very difficult undulating area that forced them to make use of all available means to support their livelihood, will be dealt with in the following section. However, their activities, farming and stock herding will be discussed here in order to trace the origin and to establish the pace of development and continuity of their landscape.

Similar to most human settlements, they all started with a search for sources of food. In this case it was through a simple technique known as 'stick farming' on the coastal sands that the inhabitants of 'Asir began to establish their communities. Over time these methods took different shapes under different political, economical and cultural circumstances. The process of development evolved to reach the sophisticated irrigation farming on the terraces of the highlands and in wadis, where both flood and ground waters were used to irrigate not only field crops, but also date palms and fruit trees.

The physical environment that accompanied such agricultural activities mirrored and supported the culture. Mud houses and animal sheds responded to the climatic and socio-cultural conditions of each phase of development, all under the restrictions of available building material and know-how. The result as told by the elderly inhabitants themselves reflects a harmonious and a well balanced natural-built environment.

The problems began with modernization. This is a fact that some of the new generation of the region did not seem to agree upon, while the older generation believe that this was the beginning of the end of their heritage. As seen earlier, not only physical environments suffered from such rapid alienation, but also the traditional

cultural values and norms. What seemed to part of the population as an enhancement of their lives, others -typically- were not able to cope with and had to abandon their time-old activities.

Accordingly, one can conclude that there are but fading signs of continuity of this cultural landscape. Neither the traditional economy nor the participating members of this culture are able to protect themselves from the rapid process of change. Governmental attempts at preservation are limited to the establishment of inviolable zones of hunting and wild life protection. There are no policies to prevent the inhabitants from destroying the age-old houses and other signs of a once-authentic cultural landscape. The remaining modes of economical sustenance are disappearing and with it the fields, markets, houses and entire communities.

PART III:

3- Cultural Meaning:

This section of the chapter is concerned with people. It aims to clarify the socio-cultural meanings that were associated with activities, land, houses and even crops; how people of this particular landscape perceived, used, manipulated and managed their environment and their resources. So far it has seen that the land in 'Asir was used for agricultural purposes. What is aimed at here is: how the people used the land, who did what, when and with whom. To answer these questions, a closer look at farming families is necessary.

3.1- Land-Use

People and Land

So far the different ways of using the land by the local inhabitants of 'Asir, which was mainly for agricultural production, have been discussed. What is needed is an investigation of the relationship between the farmers and their land in order to establish the real meanings behind the physical aspects of the landscape. To begin with, let us look at how a typical farming family divided different labour tasks among themselves on the land.

The highlanders were agricultural people. This required sufficient areas of land to support this activity. The development of terraced fields was a direct result of such a need, a practice that was carried out for centuries. Mountain slopes were turned into usable flat lands taking advantage of different altitudes, temperatures and flowing water. The 'Asiri terms '***mazari***' and ***hoqool*** included both flat and terraced fields.

Terrains (the flat area on the both side of wadi) were divided into fields and were located in the path of the valley flow to make maximum use of water.

The agricultural land was mainly farmed by the owners[17]. Inhabitants were peasants who formed families or family groups, and lived together in large, clustered villages. The leader of the family or the eldest male member was responsible for the distribution of work in the fields. In general, all the family members worked save the infants. This meant that everyone was assigned one agricultural task or another during the day time depending on age and gender. For example, mature men would undertake the physically demanding tasks such as plowing, transportation of the harvest from the fields to the house or the farmhouse and treading down of seeds. Women, and young children are assigned the tasks of subdividing the fields into irrigational zones, harvesting, separating the seeds from the ears of corn and domestic household tasks.

There were, however, different circumstances when the agricultural tasks were divided between men and women on a seasonal basis. For example, when a tribe[18] that lived on the highlands happened to own plots of land in the Tihamah (lowlands), farmers would usually move down from the mountains after the summer harvest, and stay in their winter settlements in upper Tihamah during Utumn, winter and spring. In such cases the men would come up again in winter to plough the land and sow the wheat while the women stayed on their lowland settlement. These continuous movements were for the sake of making full potential of the warmer upper Tihamah wadis.

In the past, and in some areas of the region at the present time, the woman had a major role as it was vital for her to work in the fields side by side with the man. The woman participated in building, agriculture, ploughing, divided the field to small plots, cultivation, harvesting, grinding seeds, as well as breeding and milking animals,

harvesting and in selling and buying produce. Two example of these activities by the women of 'Asir follow:

- Umm 'Ali, who is still living in one of the villages, and who still works in the fields with her husband, described her daily life.

> ***"I get up before dawn prayer, feed the cows, grind the grain at the millstone, wake my family members for prayer, and pray. Thereafter, I kindle the fire, brew the coffee and make breakfast of dates and coffee. After that, I milk the cows, fetch the water, bake the bread, shake the milk and provide bread, fat and honey for lunch in the field. After that, I help with the farming until sunset when I return home to cook dinner, which is the main meal and is offered after Al-Isha prayers. This concludes my day and I go to sleep in order to get up before dawn to begin work another day. This routine has been followed by our people from ages past"***[19]

Water drawing from wells was also the task of women. All these activities took place after the farming hours of the day. The usual farming day begins after the dusk prayers at 5:00 AM until after sunset at 7:00 PM. Thierry Mauger[20] who visited the region during the 1980s, observed that the 'Asiri women engaged in a number of activities at these hours. She described a glimbse of their life as follows:

> ***Feverish activity is raging around the wells; it is that the women come together to exchange their news before slowly climbing the slope, bent under their loads of water-skins made from recycled inner-tubes. A human noria, exhausting and monotonous.*** (figure **3.14**)

The position of women in such communities was of a very high calibre. Ahmad Haidar (1987) stated that there were three categories of working women in the

region: Permanent, temporary and seasonal. The percentage of permanent working women reached up to 53% of the total labour force, temporaries represented 26 %, while the seasonal labour force of women in the region represented about 10%. However, this does not mean that all working women received wages, for most of them worked in their own fields while few were employed by other families. Women in agricultural lands were considered to be 'skilled labour' and they were preferred by farming families for their endurance of long working hours[21].

Apart from agricultural usage, family land would be divided amongst other domestic functions, the most important of which were the houses. It should be noted however, that houses were not always built on the fields. In some cases, houses were separated from the fields and clustered for defence reasons. The criteria of such separation was that the more confined and inaccessible the location, the better it was to accommodate the family house. That is why most of the early houses of this region - stone and mud houses- appeared tower like for they were originally built as observation towers[22].

(Figure 3.14) Working Women
From: Mauger, Thieryy. Flowered Men and Green Slopes of Arabia, Paris: Souffles, 1988, P 84.

Most of the old settlements were built towards the direction of valleys, and shaped for defence reasons[23]. Construction of houses was undertaken by the men of the family with the aid of their larger clan. The use of available building materials and domestic animals played the major role in the existence of these traditional 'Asiri houses. From the straws that was obtained from threshed wheat to the mixture of mud blocks that were trampled by cows, all create an environment in which even domestic animals participate.

Once again, the role of women was extended to include their active participation in the construction of houses both externally and internally. This included plastering, smoothing walls and floors, decorating and colouring walls. This indicates the attachment of women to the land, whether houses, fields or animal sheds. It also explains the fact that only women were visible throughout the day in the study area, and the local sensitivities attached to my presence in the area.

Animal yards were the third important utilitarian land use in the region (after fields and houses) . These took the form of fenced plots of land or ***makhawil*** (*n.sing.* ***mikhwal*** = outdoor animal yards), usually close to a naturally protected area such as large rocks or trees. Accordingly, they were often situated at a distance from the main residence of the family. There were also a number of beehives, that were included in either these yards or on top of the family house. In some cases, separate yards for poultry were provided in proximity to the house. Cows were kept inside houses in places known as ***sufli*** (lower rooms).

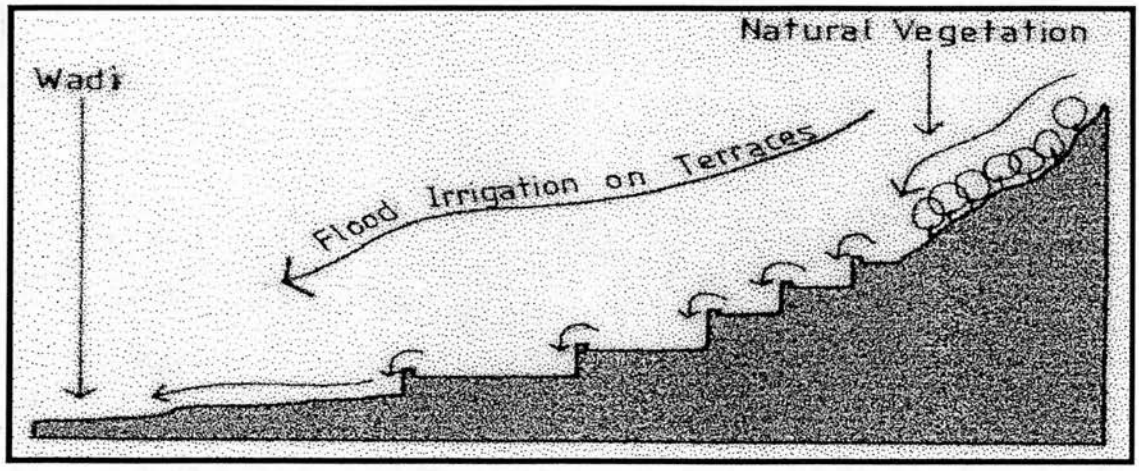
The last of the land-uses that would be established by a typical farmer family in 'Asir would be grazing. Pasture lands were assigned in accordance to tribal territorial lands where restrictive rules were observed. In general grazing fields could be classified into three main categories: Highlands, valleys and hills. Each of these had its own plant species and temperatures that would attract certain animals. For example, the

valleys were favoured by camels, while the hills and highlands were used by cows, sheep and goat.

3.2- Manipulation

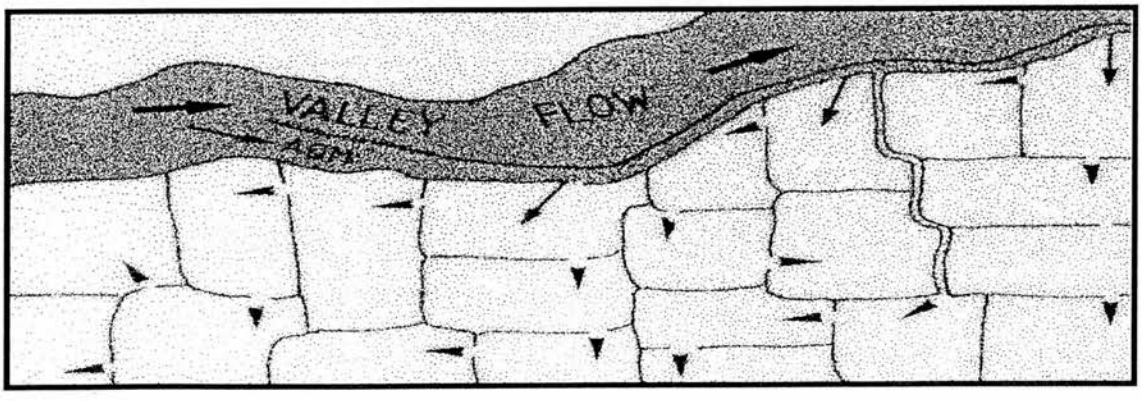
The manipulation of the land took different forms to suit different purposes. In all cases, the traditional means of making the land more suitable for human use did not conflict with the harmony or the balance of nature. One major reason for the transformation of the landscape in 'Asir was the preservation of rain water. While the area did not suffer much from a severe lack of water, it did suffer from the lack of means to keep this water available throughout the year. The main solution to such a problem was a method that could not only gather water, but could also keep the moisture in the soil as long as possible. The traditional aim has been, and still is, to make the maximum possible use of the available water resources.

Six widely distributed techniques of making use of water, each with some regional variations (highlands, lowlands, plain), contributed to the local manipulation of the land. The first of these methods is terraces. Mountain slopes were terraced and levelled to extend the area of cultivatable land, hold and keep the rain, flood or irrigation water. These terraces also had the advantage of keeping and conserving the fertile soil. Areas of these terraces (figure **3.15**) began to form as large plots of lands at the bottom of the mountain (the edge of the wadi) and then gradually decrease in size towards the summit of the mountain[24].

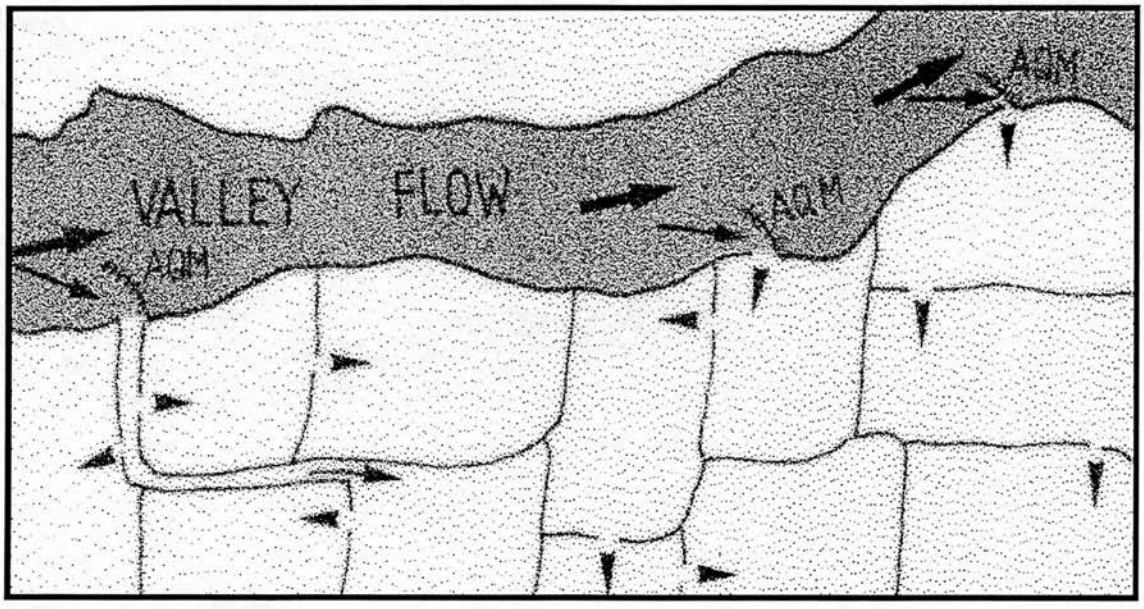


(Figure 3.15) Flood irrigation on the terraces

The second technique was the building of different sizes of dikes known locally as the ***'Aqum*** (sing.***'aqum*** = a low wall of stone or mud to control the direction of water) that blocked the wadis to direct their flood water to the fields. The water was then directed by the same means from one field to another. The third technique, another variation of the same technique, was used to bring the runoff water into the fields. These were known as ***masha'ib*** (sing. ***mash'ab***) which were shorter versions of the 'aqum.(Figure **16, 17**).So, while the farmer was used to direct water from wadis on a large scale, the latter was used on a smaller scales inside field.



(Figure 3.16) Service irrigation in Tihamah
Technique for irrigation system using one Aqum for more that one field.
Adopted from: Haidar, Ahmad Muhammad. Agricultural Geography of the 'Asir Region, (Arabic) Abha: Abha Literature Society, 1987, P 208.



(Figure 3.17) Service irrigation in Wadi Bishah
Technique for irrigation system using one Aqum for many fields.
Adopted from: Haidar, Ahmad Muhammad. Agricultural Geography of the 'Asir Region, (Arabic) Abha: Abha Literature Society, 1987, P 208.

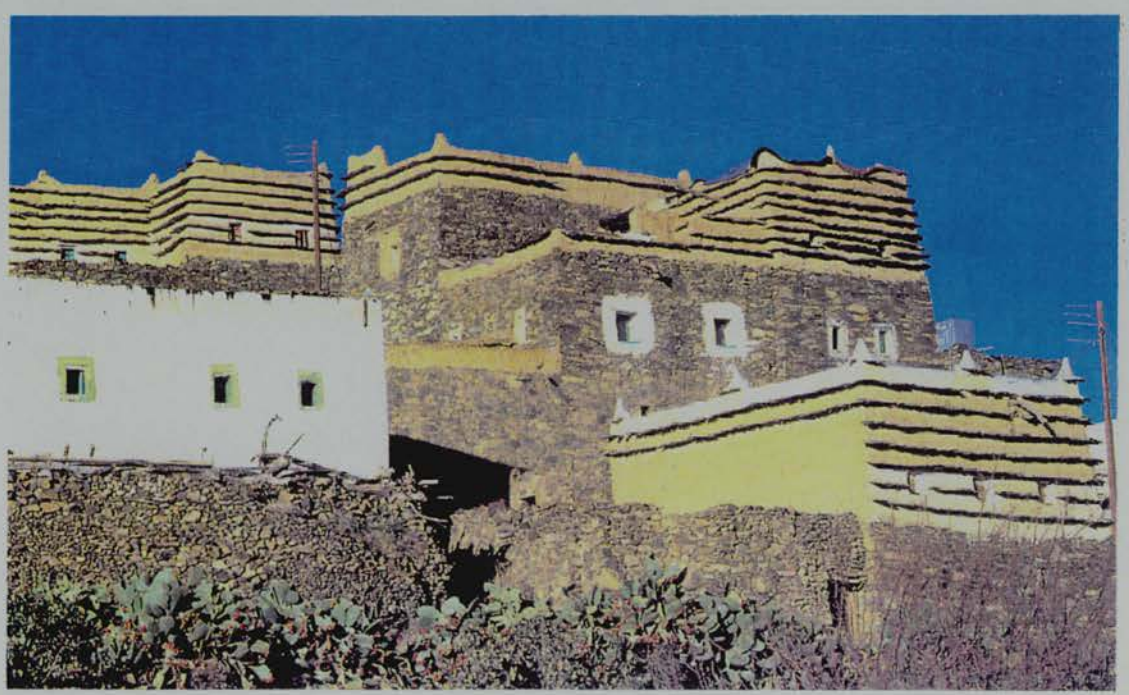
The fourth techniques of making full use of rain water was the repetition of continuous ploughing, levelling, and smoothing of the soil before and after the rains or floods. This helped retain water by reducing direct evaporation from the soil. Farmers respected and strictly followed traditions that regulate the use of water whereby the peasant is obliged to direct the water out of his field/s after having irrigating his land. This means that no water is wasted and no field is over irrigated. This socio-cultural agreement was considered to be the fifth technique of controlling and preserving water supply.

The sixth and last technique was represented by a very large number of hand-dug wells that stored water for irrigation as well as different domestic purposes. This system helped peasants to expand their fields beyond the main water source. Water for the use of animals like cows and oxen, was drawn from these wells in time of need.

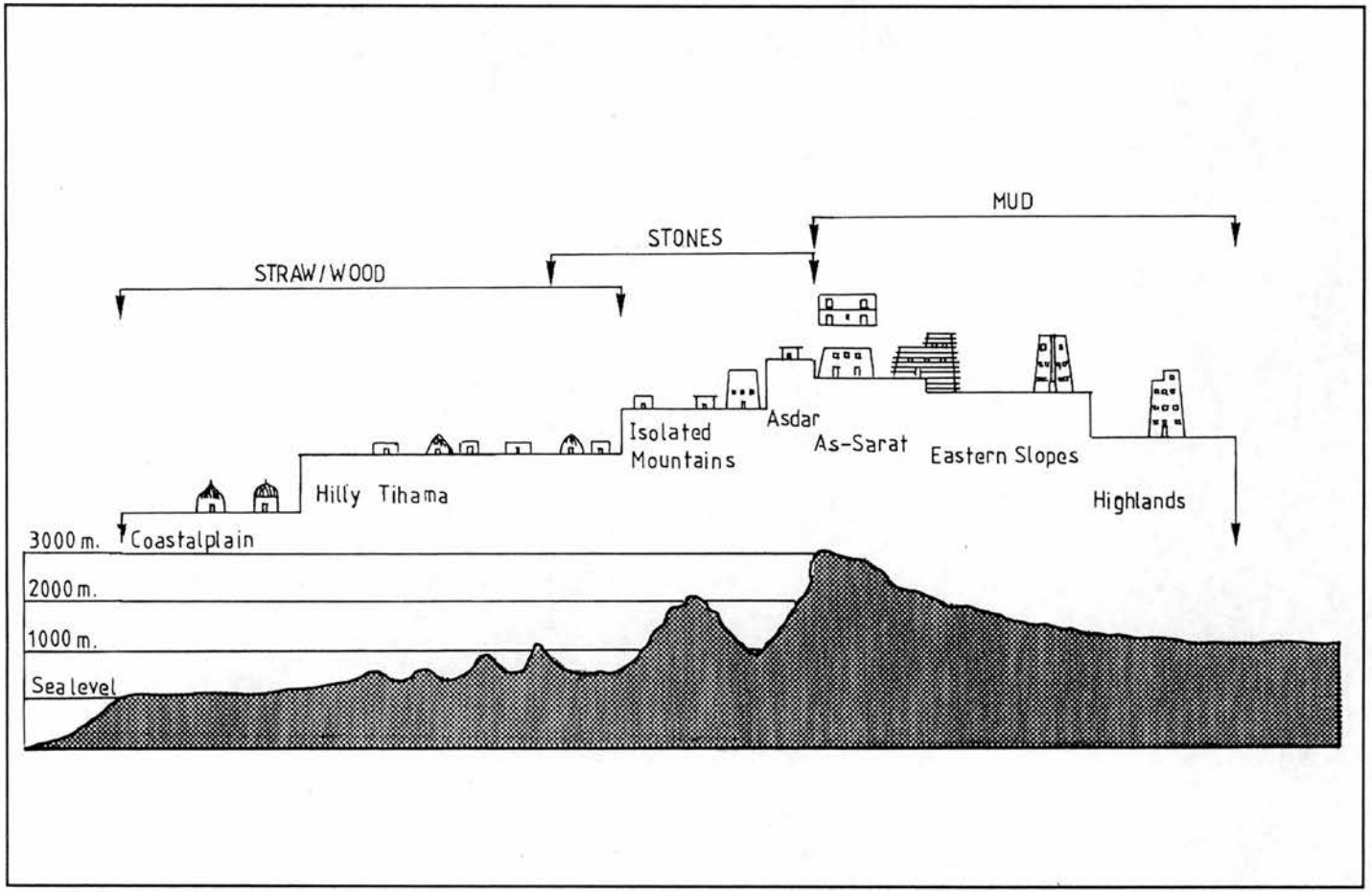
Farming technique in hilly **Tihamah** is partially the same as mentioned earlier. A technique known as ***ghayp*** (absent) water is exactly the same as that of the ***'aqum***.. Excess water is diverted into the flood terraces of the wadis by small artificial channels

build by peasants. In the flat part of the valley, small ditches were dug parallel to the contour lines to direct the flow of water to the fields. The ratio of the field-size to the size of its catchment-area of this type is about 1:7 or 1:8 and even higher.

Apart from agricultural usage, there is an eternal relationship between the inhabitants and their environment. Humans in this areas have always attempted to adapt themselves in a manner that ensures both continuity of existence and maximum quality of life. Therefore, human adaptation takes the form of buildings with strong foundations and walls. 'Asir people used all the available local materials in building their houses. These houses varied from one area to another in respect to the surrounding nature (figure **3.19**). There are three types of building-pure stone buildings, stone and mud buildings, and pure mud buildings. For example, rows of rocks are piled around the external walls to protect them from heavy showers and diminish the effects of rain and hail on the mud walls. In the mountainous highlands, the buildings were originally of stone for additional protection and strength (figure **3.18**).



(Figure 3.18) An old building made of stone and mud
Al-Saud, Nourra bint Muhammad, eds. Abha Bilad 'Asir: South-western region of the Kingdom of Saudi Arabia, Riyadh: Al-Saud, 1989, P 106.



(Figure 3.19) Type of houses

Abdulfattah, Kamal. Mountain Farmer and Fallah in 'Asir Southwest Saudi Arabia, Erlangen: Kommission Pei Palm and Enke, 1981, P 92.

3.3- Management

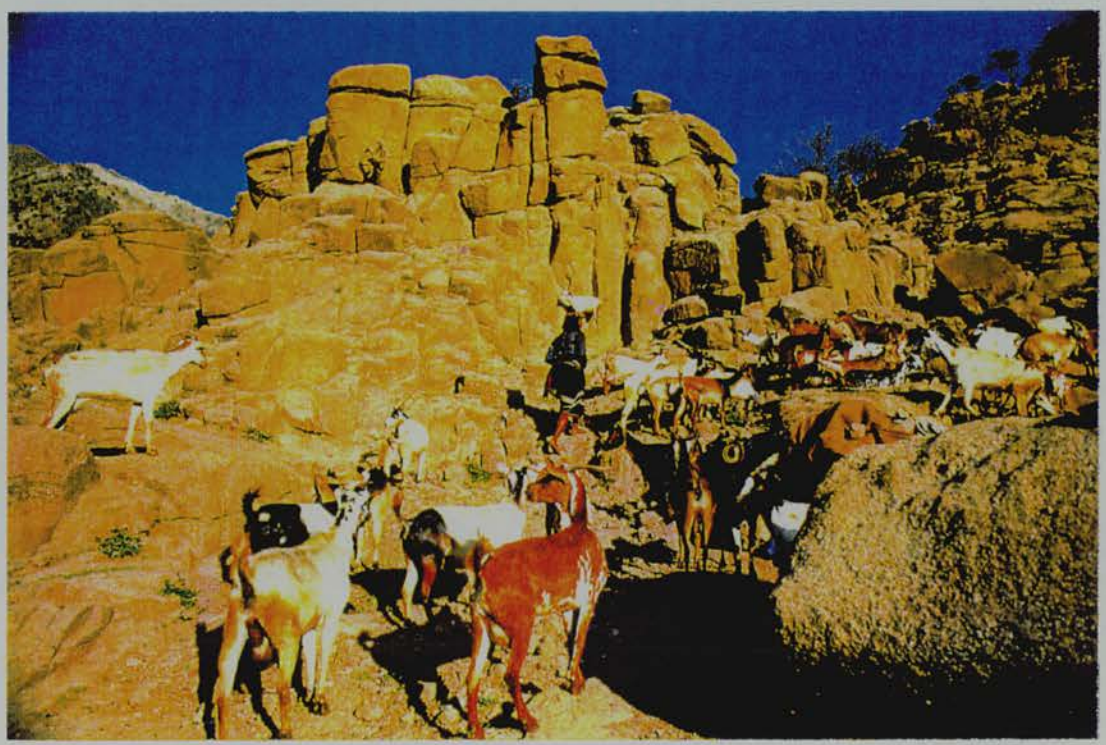
'Asir as a traditional tribal society operated under the system of sheikdom where the supreme and final authority is the sheikh of the tribe. As seen later in this research, this leader represented the law obeyed by all members of the community in all their aspects of life. This has helped in different ways to regulate the use of land by the inhabitants and the uniformity of land management and manipulation.

To illustrate but a few examples of such socio-cultural methods of managing the transformation of land, a look at the major functions performed by ***sheikh al-qabila***[25] is in order.For example, the regulation of the irrigation system of every flood plain was organized by the inhabitants under the supervision of the leader. Supervision and maintenance for the opening and closing of the ***'aqum*** were the tasks of the sheikh. In cases of dispute over times and shares of irrigation, it was the sheikh who decided the turn and quantity of irrigation water for each member of the community.

The other example is of self-regulation by the members of the community who divided the year into periods of land use patterns, for example the cultivation of the land in the highland and in the **Tihamah** during different seasons of the year.

Two annual seasons were assigned for grazing. For example, summer was favoured by animal breeders because of the mild temperatures, when cows, sheep and goats would be scattered on the highlands. It is also the season of wheat harvesting which means that that grazing animals could be used to clean the fields of the remaining plants. The second grazing season was in the winter when animals were led to the lowlands of Tihamah to take advantage of the warm climate and rich pasture lands (figure **3.19**).

There is also an interesting example related to the territorial lands of the tribes. Al-'araf or norms of ownership and territories helped to protect the land beyond the desire of certain tribes by outsiders, therefore, no 'alienation' was permitted in the lands owned by certain cultural systems. The present lack of land identification has allowed non-native farmers to develop plots of lands for touristical activities in the midst of agricultural lands, hence deforming the original and authentic identity of the prevailing cultural system. The traditional propriety and rules of land tenure in "Asir are divided into three distinctive groups of right of ownership -the tribal territory, the families holdings, and individual properties. None of these could be violated or misused by their owner/s without the agreement of the whole community.



(Figure 3.20) Grazing in the mountains
From: Mauger, Thieryy. Flowered Men and Green Slopes of Arabia, Paris: Souffles, 1988, P 84.

Conclusion:

There is no sign of stabilization to the on-going development process in this region of Arabia. The fear is that this desired stability will take place only when it is too late to trace even the slightest glimpses of a once thriving cultural landscape. From these gloomy statements about the sequence of evolution of the region of 'Asir, one can conclude that the area is suffering from a drastic socio-cultural change that was ignited in the late 1970's followed by the subtle but continuous change into the 1990's. This process of change has resulted in some severe and unredeemable consequences. However, this research - as stated earlier - is not calling for a revival of a lost culture as much as it is trying to recognize and understand the characteristics of this traditional cultural landscape for the benefit of the next generations of Saudies.

The analysis of the patterns of land-use from the utilitarian point of view would not give enough clues as to the inner meanings behind the appearance of the physical landscape. These land-use patterns were associated with the lives of the inhabitants. The meanings that were invested in each activity could explain the 'why's' of its form and pattern. For example, the fact that a certain plant was very popular , such as dates can not be explained by figures. Knowing the socio-cultural connotations of the date-palm as a symbol of the nation and of generosity and hospitality contributed further to its popularity. There are also some religious and cultural beliefs that their association with the tree of paradise makes a date-palm a sort of sacred plant.

Finally, this chapter is intended to give a general impression about the region and the forces of change that are causing dramatic alterations, both on the social and physical levels. In order to complete the picture presented here, and to continue the process of examining the proposed cultural landscape assessment model, the next chapter will analyse the cultural and physical features of the landscape of the selected case-studies. This is then followed by an application of the proposed model on one particular site.

[1] Abdulfattah, Kamal. Mountain Farmer and Fellah in 'Asir Southwest Saudi Arabia: The Conditions of Agriculture in a Traditional Society, Erlangen: Kommission bei Palm and Enke, 1981, Pp 26-32.

[2] Al-Saud, Nourra bint Muhammad, eds. Abha Bilad 'Asir: South-western region of the Kingdom of Saudi Arabia, Riyadh: Al-Saud, 1989, P 23.

[3] Abdulfattah, op. cit., 1981.

[4] Ibid.

[5] Al Nadwa, (Makkah), No. 10040, Tuesday - Jan. 7, 1992, P 16.

[6] An example of such books in 'Asir Heritage and Civilization. Sponsored by the Government of 'Asir. Riyadh: Obeikan Co. for Printing and Publishing, 1987, P 22

[7] Hamzah, Fuad. Fi Bilad 'Asir. 2nd. ed., Riyadh: Abdulah and Mohammed Al-Rashid, 1968.

[8] Al-Hamdani, H., Sifat Jazirat al-Arab, (Arabic) Cairo, 1953, Cited in Abdulfattah, op. cit., 1981, P13.

[9] John, H. Philby. Arabian Highlands, New York: Cornell University Press, 1952.

[10] The region was governed by the Ottoman, under Muhammad Ali, ruler of Egypt followed by the rule of a large tribe known as **Al-A'yid** who reigned from 1833 AD to 1872 AD.

[11] A'siree, A. A. A. 'Asir: From 1833- 1872, a Historical Study. Abha: Abha Literature Society, 1987, Pp. 123-124.

[12] Abdulfattah, op. cit., Pp. 100-102.

[13] Ibid., P 55.

[14] Ibid., P 55.

[15] 'Asir's traditional economy was until recent time a self-sufficient subsistence economy. The inhabitants had to produce most of their needs, which led to an agricultural system that was oriented to produce basic foodstuffs.

[16] Hough, Michael. "The Cultural Landscape: Regional Identity by Necessity" in Michael Houg, Out of Place: Restoring Identity to the region landscape, New York: Yale University Press, 1990, P 34.

[17] If the owner of the farm happened to be engaged in some other activities away from his land, or was unable to take care of his fields, he would usually appoint a ***wakil*** (agent). The latter would administer, supervise and employ the required labour force in the farm.

[18] Like the inhabitants of ***al-siqah*** village, west of Abha, who own agricultural lands in the upper ***wadi Maraba'***. Also the inhabitants of ***al-Ashraf*** village, near ***al-Souda***. who own lands in wadi ***al-Us*** in the lowlands(Abdulfattah, 1981, P.72).

[19] Al-Saud, op. cit., P 198.

[20] Mauger, Thieryy. Flowered Men and Green Slopes of Arabia, Paris: Souffles, 1988.

[21] Lunch hours in the fields began at 11:00 AM until 12:OO except in the hot summer days when these are extended to 2:00 PM.

[22] Houses in 'Asir are still called ***Housoon*** (sing. ***Hisn*** = fortress).

[23] It was the traditional perception of the inhabitants of the region to 'give their backs to the mountains to protect them from behind' that led to this pattern of development. This has changed in recent years to form scattered and walled villas, oriented towards the best views and separated by long walking distances.

[24] Peasants used different technique to match the local topography of the land. In the isolated mountains of **Tihamah** the terraces have irregular shapes with small-sized platforms, 100 to 300 square metres with height of 2 to 4 metres. In higher altitudes like the area of **Asdar,** the terraces become even smaller with sizes of 10 to 30 square metres. These terraces are so many that the beds of wadis become unrecognizable. In the highlands, these terraces cover the lower and middles parts of the slopes.

[25] (*n.pl.* ***Sheioukh al-qaba'il*** = heads of the tribes). These were amongst the elderly of a given tribe. ***Sheikh al-qabila*** was selected by his tribe according to his age, wisdom, honesty and clan descendants. He represents the highest authority in the tribe, and his judgement is never negotiable, questioned or objected to. Up until today, his respect, authority and socio-cultural status in his tribe is still maintained and is not diminished by the authority of the government.

CHAPTER IV

APPLICATION AND VERIFICATION OF ASSESSMENT MODELS

Application of the Proposed Assessment Models on selected Case-Studies

Introduction:

This part of the research focuses on the process of implementing the modified model of Melnick's cultural landscape assessment to the selected case-studies of the 'Asir region. It aims to test the validity of this analytical model for the purposes of this study, and the extent to which its application can lead to the goals of the research.

This chapter has three parts: the first part is an introduction to the techniques used in the application of the proposed cultural landscape assessment model (Appendix B,page 332) shows a representation of the site-analysis data format, used during the initial stages of the field-trip). The second part deals with the selected case-studies in terms of location, and natural features, followed by a practical application of Melnick's "physical attributes and properties." The final part of the chapter is a discussion of the analysis carried out in the second part. The end of this section should pave the way to the evaluation of the cultural landscape assessment of the ``'ASIR' region through the course of its development to reach a set of design principles to guide those involved in directing, managing and maintaining change to this fragile resource.

PART I: Analysis Techniques

Physical Feature and Cultural Meaning:

This part focuses on the identity of each selected case-study in terms of its location, historical background and socio-cultural characteristics. Site identification also aims to verify the significance of any associated cultural meaning attached to the site's aspects and features to determine the different local values. Once these values are established, the assessment of the landscape as far as culture is concerned can be carried out.

Visual Analysis:

The analysis in this section, is mainly concerned with three interdependent sets of criteria which collectively aim at the completion of the physical attributes analysis as proposed by the modified assessment model. These were referred to by the US Forest Services as: "dominance elements", "dominance principles" and "variable factors". The implementation of these criteria will lead to the identification of the different visual modes of the study area. The visual mode of a given site deals mainly with the form, line, colour, and texture of that site. These are assumed to be the basic ingredients of landscape perception.

Graphics Presentation:

The discussion of each site contains eight sheets. These are organized in the following way: (refer to the diagram in figure **4.1**)

- The first sheet shows a site plan of the study area. It consists of a topography map and four pictures (shown in the diagram as P1, P2, P3 and

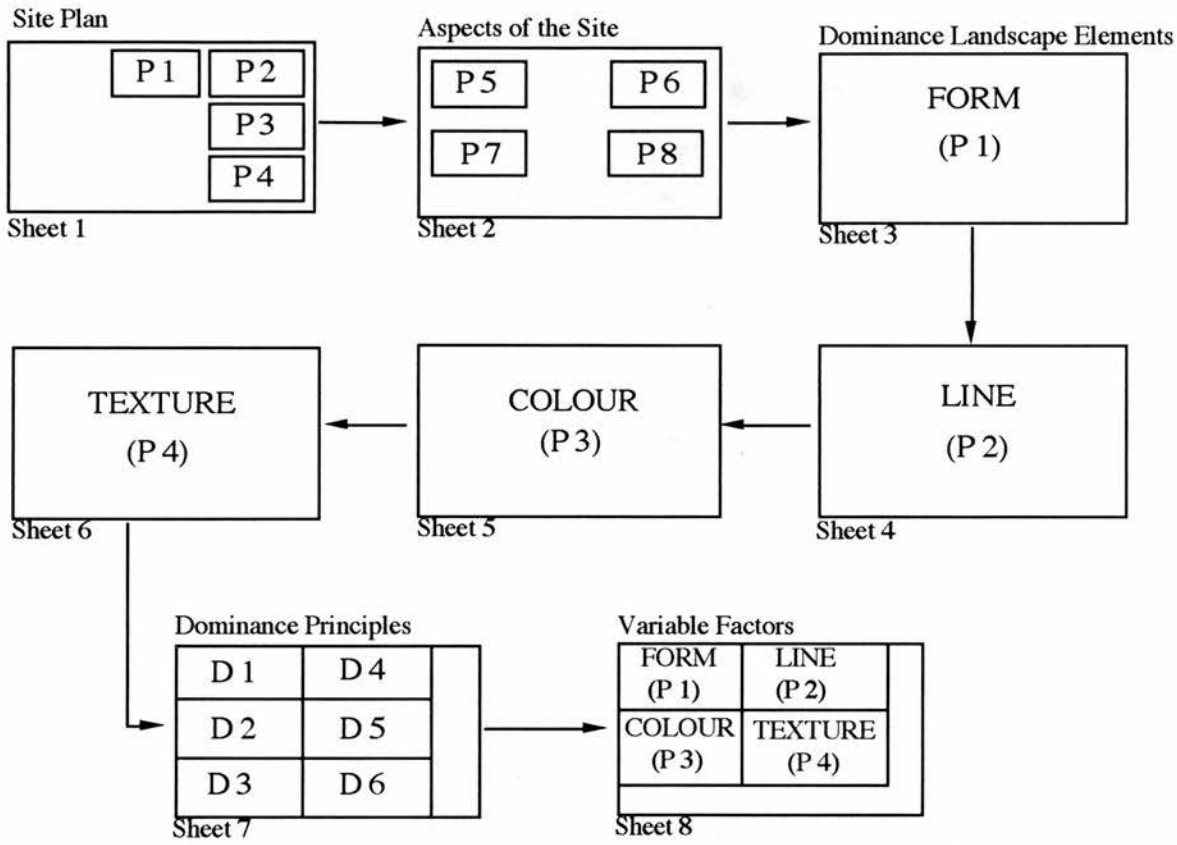
P4). These represent observation positions within the site. They correspond to the dominant landscape elements in the site (form, line, colour and texture).

- The second sheet continues to present pictures that shows some aspects of the site. They are numbered consecutively following the numbers in the first sheet i.e P5, P6 up to P9.
- Sheets 3,4,5 and 6 are sketches represent the dominant landscape elements in the site that are defined as form, line, colour and texture. They are detailed analysis of P1, P2, P3 and P4 as illustrated in the first sheet respectively.
- Sheet 7 illustrates the dominance principles of the site. It consists of six small diagrams that may correspond to any of the pictures in sheet 1 and 2.
- During the discussion in the dominance principles section, the reference to the diagrams and pictures will be represented as follows: (F7D1 F2P6). F7D1 means figure 4.7 and diagram No.1. F2P6 means figure 4.2 and picture No. 6. The diagram and the picture are usually related.
- The final sheet represents a summary diagram. It shows four sketches represent the dominant landscape elements in order to clarify the variable factors.

Summary Diagram:-

This is a diagram that follows the analysis of each case-study to identify the variable characteristics of the site. It explains the different variables that affect the implementation of the assessment model also presenting the data required for a conclusion to be drawn. Accordingly, it is important at this point to explain some of the factors that will remain constant throughout the following sections.

The analysis (site observation) was carried out in the period from the 10th of June to the 10th of July, a period known for its intensive tourism in the study area. This fact allowed for all types of activities in the study area to be observed within very



(Figure 4.1) Sequence of the graphic presentation.

mild climatic and light conditions. The period of site observation ranged from 9 in the morning up to 1 o'clock in the afternoon.

Given the habits of the residents of the study area, this period could be considered as the most active time of the day, when most of the different local activities and behavioural patterns in operation could be observed. Another reason for choosing this period is the prevailing light conditions typical of this period, as cloud cover accumulates around noon time (12 am). This tends to affect visibility also the identification of plant types, colour, texture and the general view of the site.

The scale of the site represents the population size of the community, scale of development and built up areas, the scale of mountains and other topographic features all which are measured against the normal size of rural development in the Kingdom of Saudi Arabia.

The observation position varied from one site to the other, but in general, higher points were prefered as they provided maximum coverage of the study area. In some cases, however, closer observation points on lower ground were selected in order to identify the nature of some visual elements required for this analysis.

The distance icon on the summary diagram represents the distance of the observed site from the nearest large city. It also represents the proximity or remoteness of the observed study site from a distribution market for goods within the study area. The importance of this point is because the existence of a larger centre in proximity to the observed site shows the extent of socio-cultural and economic effects of this centre on the site itself (e.g., employment opportunities, population concentration and economic activities).

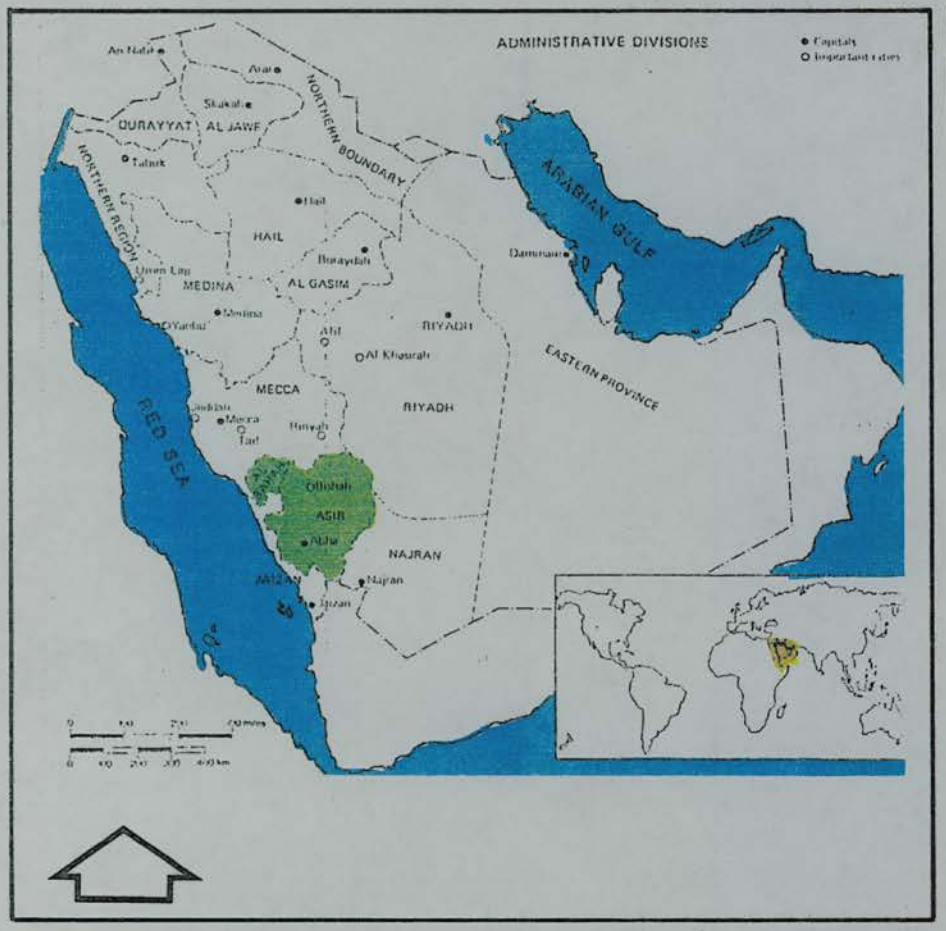
The atmospheric conditions in the region are characterized by a relatively high rate of rainfall all the year around if compared with the rest of Saudi Arabia. The green character of the region is the result of the moderate temperatures.

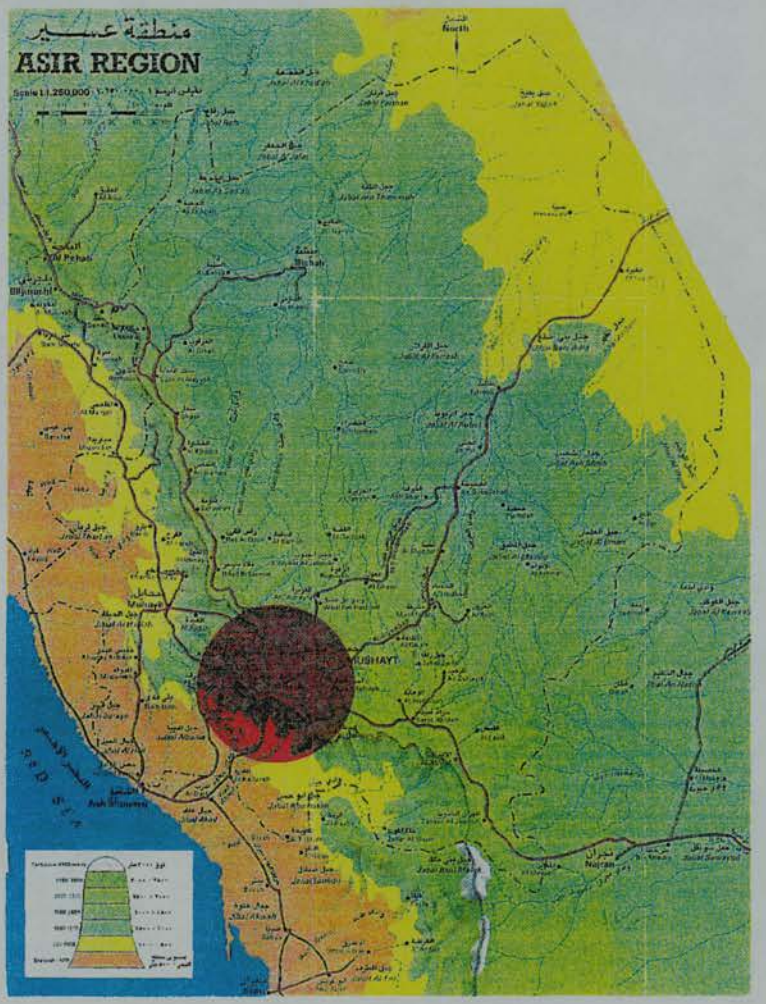
Because of the topographic nature of the site, and the tendency of terraces and hills to cast heavy shadows with the slightest change of light direction, the previous point was of the utmost importance. However, the sites were fully flooded with natural sunlight during the chosen period of observation.

As far as site accessibility is concerned, a positive sign on the conclusive diagram shows the main road leading to the site. A negative sign represents any off-

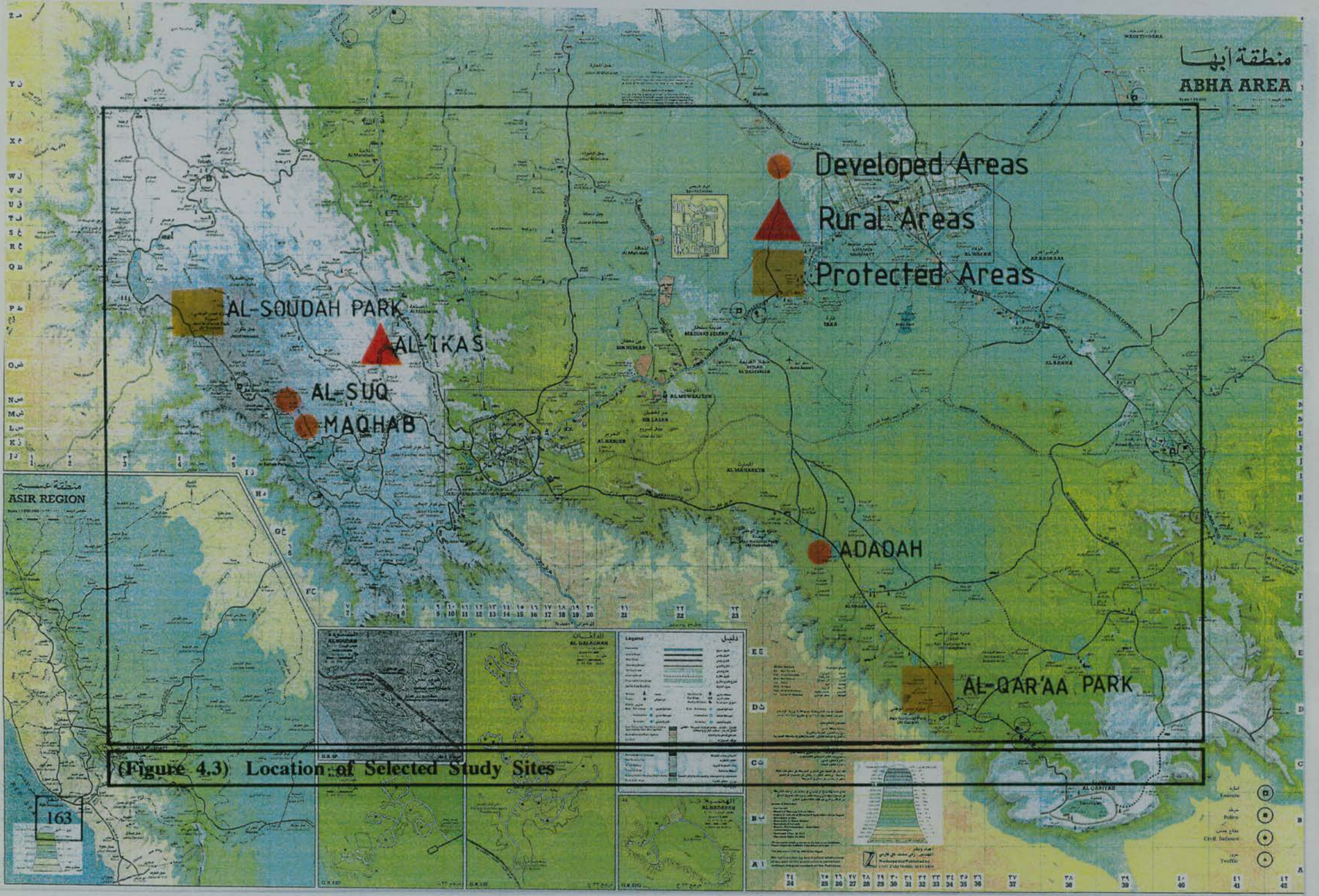
road access. Usually, off-road accesses to the site were constrained by many socio-cultural reasons, one of which were women working on the fields, which made photography almost impossible, let alone mere observation. Because of the nature of this closely-knit community, an unknown car -or an unfamiliar face for that matter- was either disruptive of the behavioural patterns or caused unease of observation (the observer himself was being watched throughout). The main road leading to the sites is that laid by the municipality of Abha (which, in turn, belongs to the road network laid by the Ministry of Transportation and General Works). Other roads are unpaved off-road tracks formed by the continuous movement of the locals' vehicles.

The following figures illustrate the geographic setting of the study areas. They provide an introduction to their regional location as illustrated in (figure **4.2**). Figures **4.3**, **4.4**, and **4.5** show more detailed information related to the location of the study sites in relation to the city of Abha.

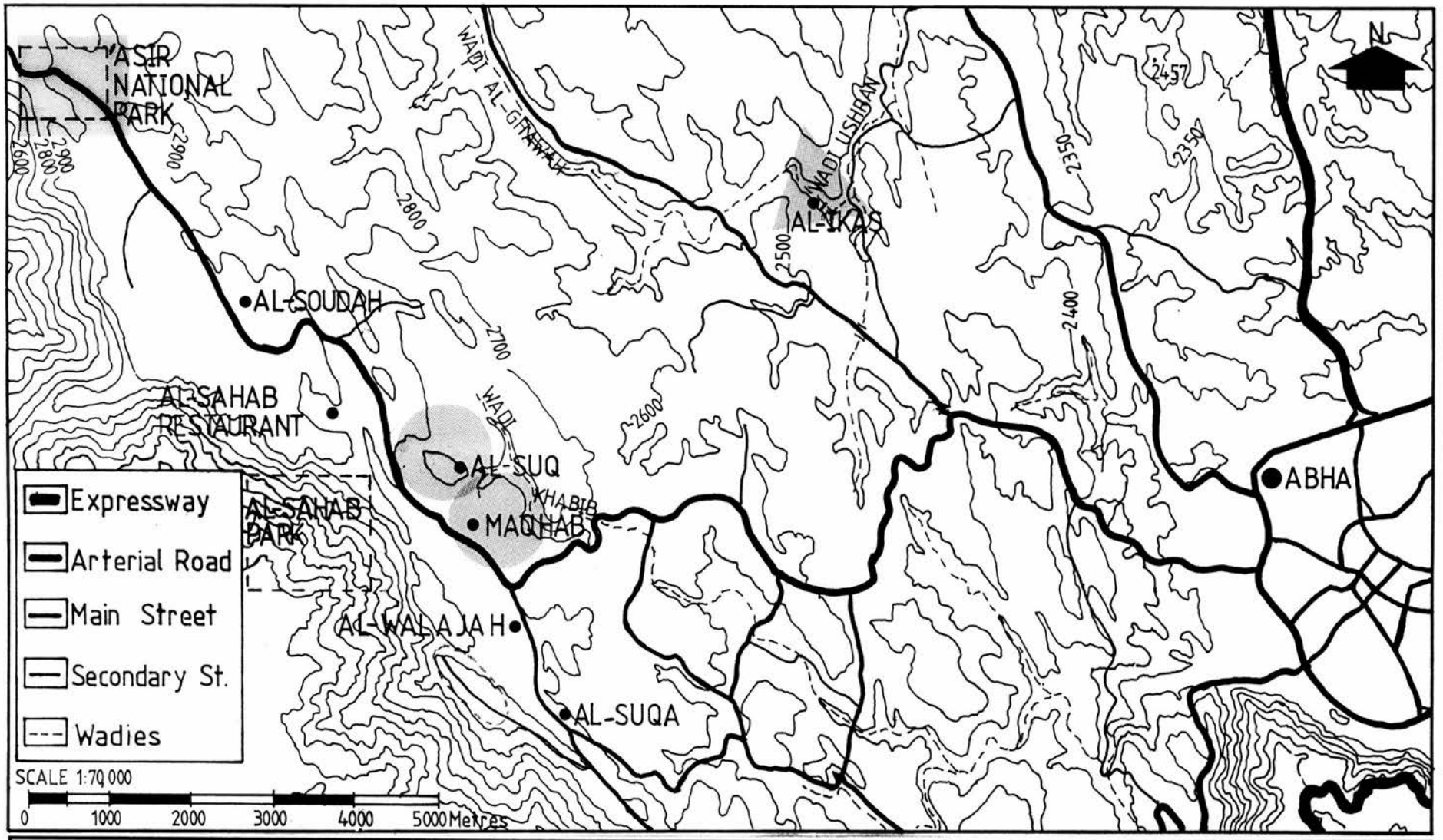




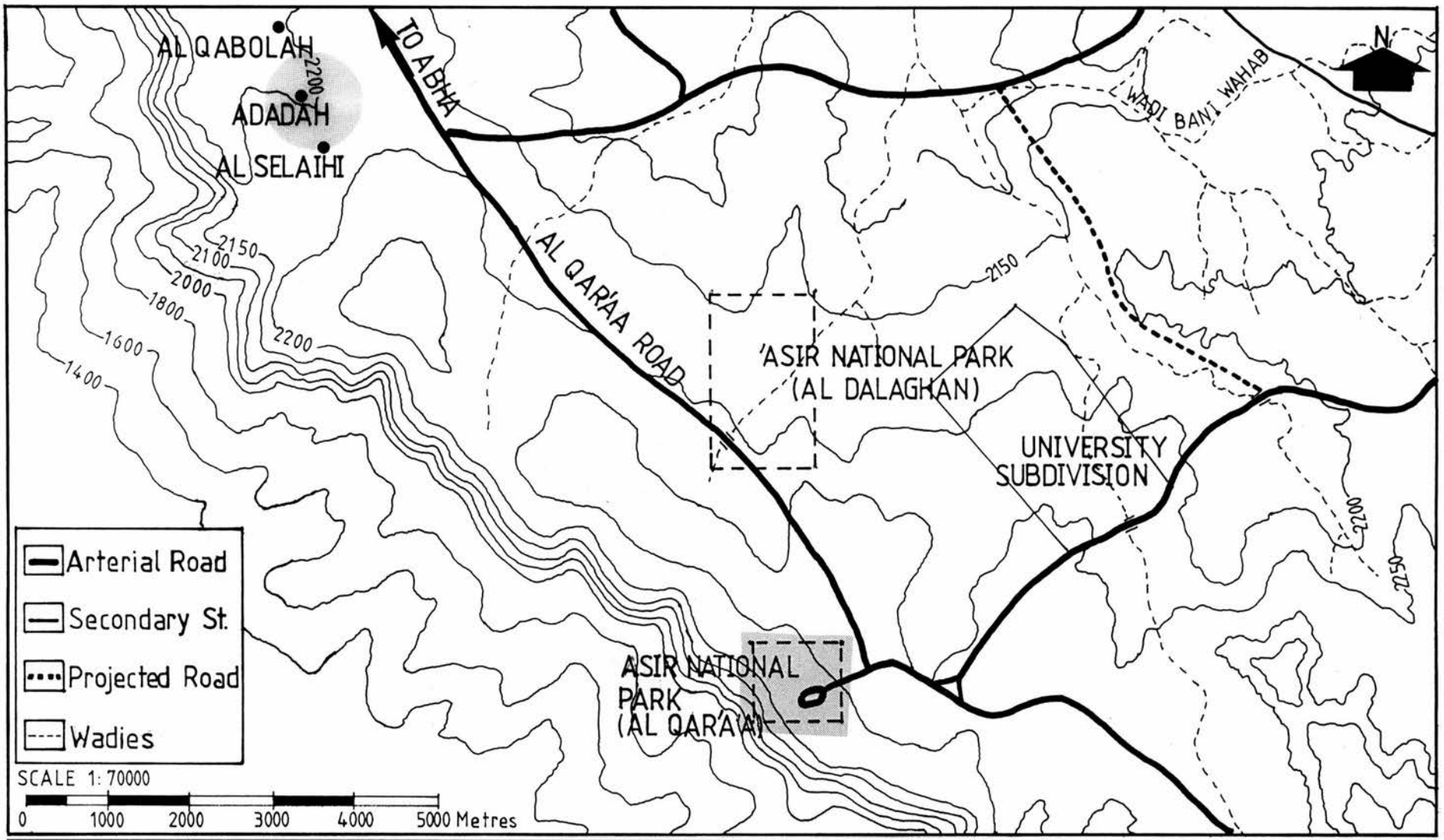
(Figure 4.2) Regional Location of Study Areas ('ASIR REGION)



(Figure 4.3) Location of Selected Study Sites



(Figure 4.4) Location of Selected Sites North-west of Abha



(Figure 4.5) Location of Selected Sites South-east of Abha

PART II: Sites Selected as Case-Studies

These are amongst the most populated areas of the whole 'Asir region and also the highest in altitude (population represents about 1,000,000 of the Kingdom's total 12 millions inhabitants, while the altitude of the area ranges from 10,000 to 11,000 meters above sea level).

All of the selected cases studies fell within this area for a number of reasons, the most important of which were the presence of historical sites and traditional villages, the familiarity of its inhabitants with the notion of tourism[1], and the fact that the majority of governmental projects and national park developments are concentrated within this part of the region - which is becoming the national summer resort of the Kingdom. Such governmental awareness meant that sufficient data could be available for the aid of the research, acceptability of governmental agencies to provide permission for entering inaccessible site (governmental properties) and the cooperation of local governmental offices (i.e., the 'Asir municipality, branches of the Ministry of Municipalities and Rural Affairs, branches of the Ministry of Information).

Once the main area of research was selected, various sites were chosen for their particular characteristics in order to widen the scope of the research and to provide for a variety of case-studies. For example, these sites fell within three categories: newly urbanised areas (e.g., ***al-Suq*** area), agricultural and rural areas (e.g., ***al-'Ikas***), and finally, ***mahmiyyat*** or protected landscapes and national parks (e.g., 'Asir National Park). The main relationship between these categories is the changes that each of them experienced in the last few years, namely the 1970s and after the oil boom had had its impact on the major cities of the Kingdom. For example, the newly urbanized areas were originally rural villages and townships which, because of the attraction of governmental projects, hence job, were heavily populated in a matter of years. This has changed the characteristics of these villages as well as their social structures. On the

other hand, the rural areas category included villages which experienced minor socio-economic changes and were able to maintain their original socio-cultural structure.

The final category, which includes ***mahmiyyat*** or governmental protected areas under the classification of "national parks" were originally natural undeveloped forests and major habitats for wild species of flora and fauna, are now being utilized by the government as tourist attraction areas. These are provided with modern tourist and recreational facilities and are attracting a large numbers of visitors each year. Such development affected the social structures as well as the socio-cultural norms and habits in the surrounding villages as an outcome of this vast influx of non-natives to the area. As will be discussed later in this chapter, each of these site had its own physical and social characteristics and would reveal the extent of the impact of recent development and socio-economic changes in the region.

Category No. 1: (Developed Areas)

Site No. 1: *AL-SUQ* (The Marketplace)

Physical Features Date of field trip: 14-7-1990

Al-Suq village is situated about 13Km. to the north-west of Abha, along the main road between the city itself and the 'Asir National park known as **al-Soudah** park (***al-Soudah*** Road). This area is considered as a suburb of Abha, and its proximity to the developed area, and to al-Souda National park makes it more likely to develop as a tourist attraction. The site is located between 2800m. and 2900m. above sea level, and surrounded by a chain of high mountains known as ***Surrat 'Asir*** (figure **4.6**). The lower mountain slopes have been artificially terraced by the local villagers to increase the agricultural land and to trap rain water for irrigation purposes. These ***Mastabat*** (sing. ***Mastabah*** = man-made terraces) represent the main characteristic of the entire region, and give this particular site it's distinctive character and identity (figure **4.7**).

The natural vegetation, which covers much of the site, also dominates the scenery and is represented mainly by *'ar-'ar* (Juniper) trees, especially on the mountains. Apart from these elements of vegetation, the local agricultural crops also occupy a considerable area of land in the lower parts of the site as well as on the terraced mountain slopes. Another main feature in the site is the small stream that flows from north to south and deposits its valuable water into the valley known as **Wadi Khabib.**

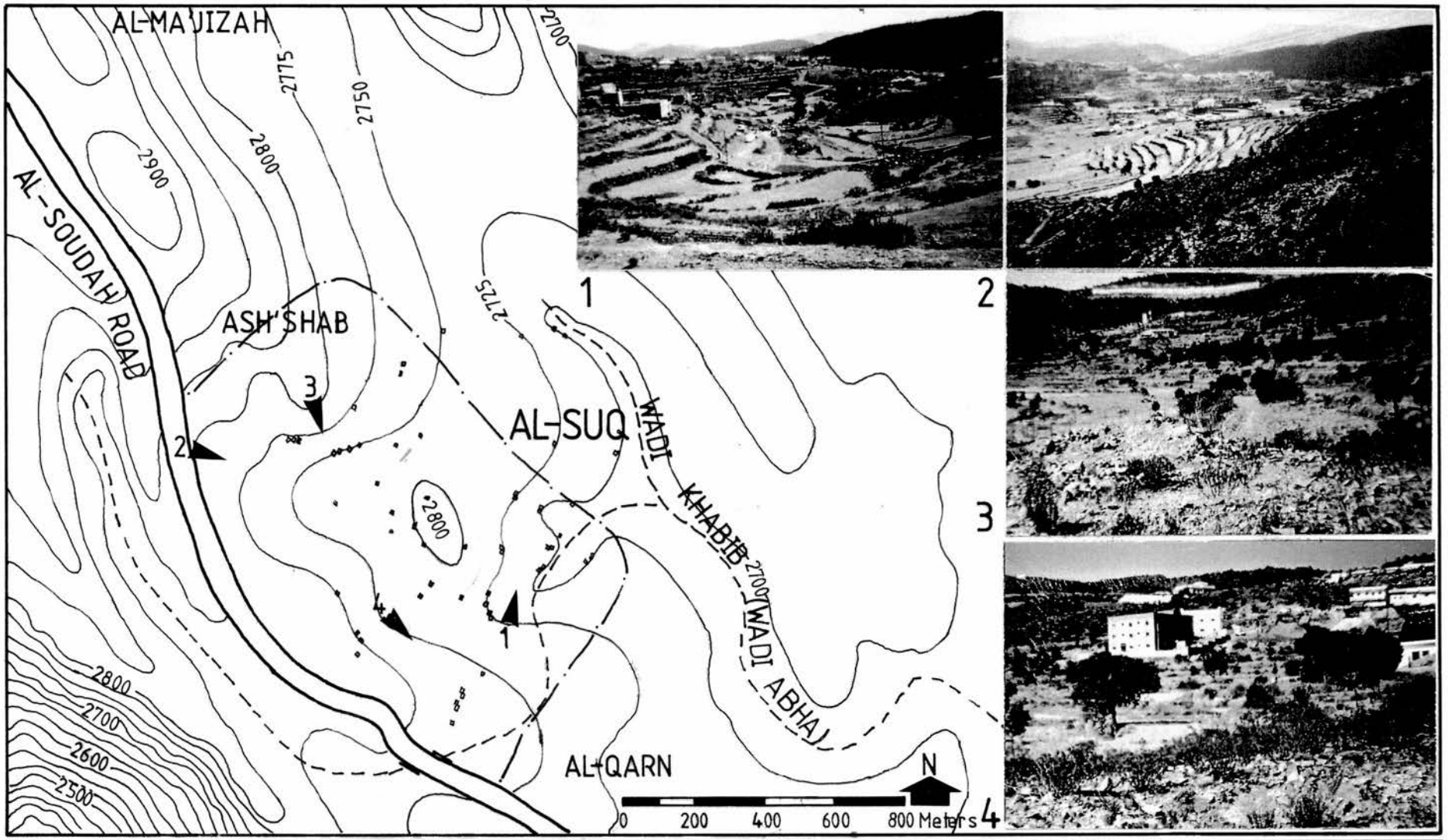
Buildings in the village can hardly be classified as "vernacular" architecture because the locals have tended to follow the available market trends and architectural styles which are mostly a mix of mud, bricks and concrete structures of eclectic styles. Although most of the local houses are funded by the Saudi Real Estate Development

Bank, there are no regulatory measures or building codes as to the types or styles of development set by the bank. The result is a domestic architecture which is far from being rooted in the traditional architecture of the 'Asir region. Only a few remaining traditional houses indicate the concern of some older residents to maintain their cultural heritage and lifestyle.

Socio-Cultural Characteristics

Mixing with the locals in their daily activities during the preliminary pilot-study indicated the existence of a stable homogeneous and collectivistic community, the members of which are mostly related to each other through intermarriage and patriarchal ties. This rural society is still governed by an elderly native known as ***sheikh al-qabila*** or the head of the clan/tribe. It is a tightly-knit community where social and economic cooperation is still vital to the livelihood of most members.

The local economy is generally agricultural-dependent as a continuation of the traditional economy of the Southern Region of Arabia, in spite of a recent trend by young locals to migrate to the metropolitan area of Abha - seeking governmental jobs, freelancing or other commercial occupations. This phenomenon is threatening the traditional farming mode of lifestyle .



(Figure 4.6) Site Plan of Al-Suq Area

Dominance of terraced areas 5

Approach to the site 6

Aspect of modern growth 7

Types of natural vegetation 8

(Figure 4.7) Aspects of the Site (Al-Suq)

Dominance Landscape Elements

Form: (See F **4.8** P **1**)

1- Overall form dominated by terraces.

2- Small volumes of natural vegetation.

3- Skyline dominated by a mountain chain.

4- Scattered newly developed houses, large masses of which are located on the highland (terrace-tops), towards the mountain chain.

5- Clustered traditional development on terraced slopes.

Line: (See F **4.9** P **2**)

1- Curvatures dominate the view, represented by the mountain chain, terraces and slopes.

2- Scattered houses represent the hard-lines in the site.

3- A narrow paved road represents a continuous curved line cutting the site from many directions.

Colour: (See F **4.10** P **3**)

1- The natural colour of plantation and natural vegetation is dominant (dark green).

2- The large mass of mountains covered with natural vegetation defines the edge of the site and stresses the overall green aspect of the site.

3- Variation of the greenish tone of the site is represented by the three kinds of vegetation available on the site. For example:

- Natural vegetation covering the mountain and inbuilt spaces;
- Crops which are planted on the terrain (the flat areas around the bed) and terraces (corn and wheat),
- Productive plants planted on terrain and wide terraces (crops).

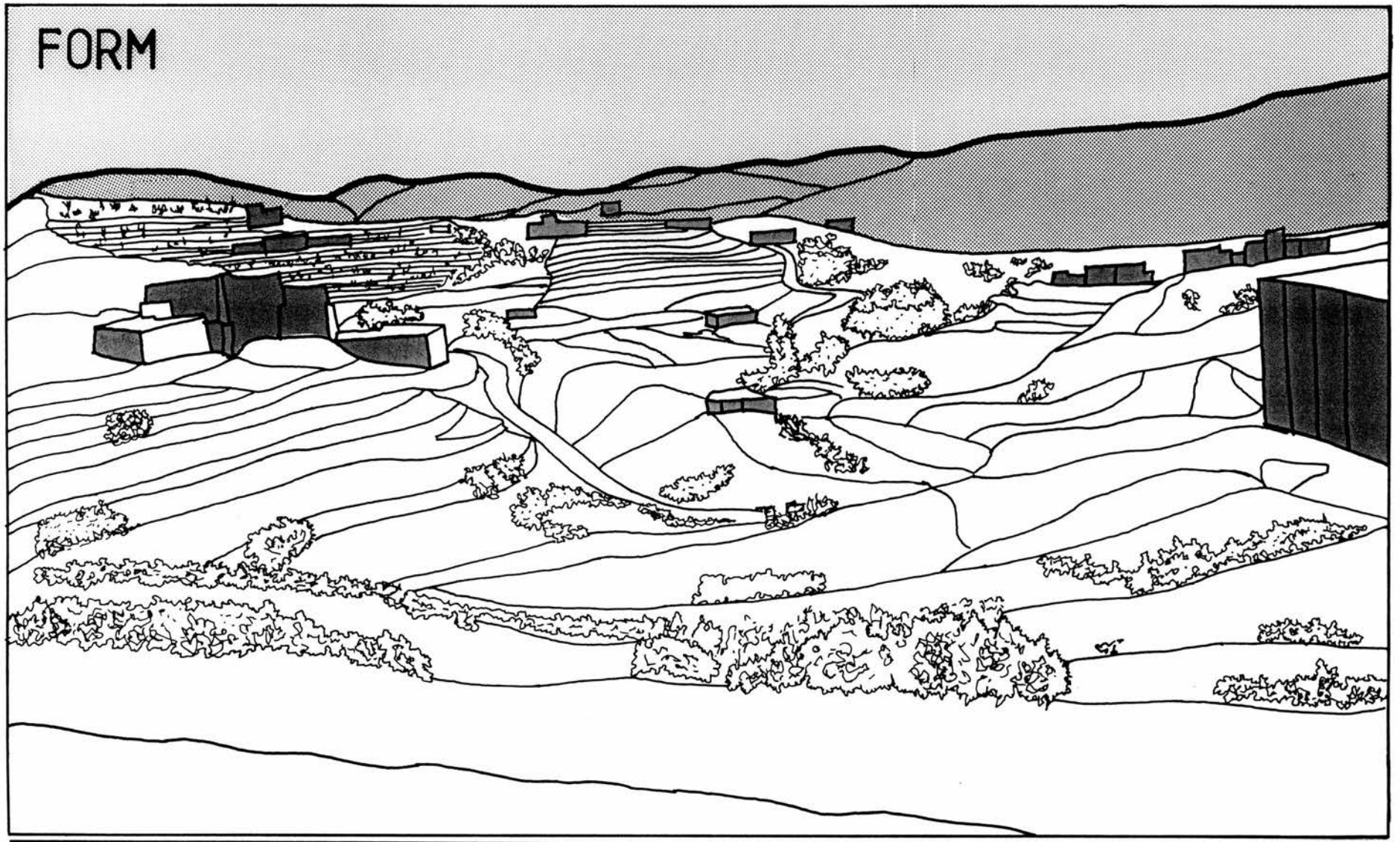
Texture: (See F **4.11** P **4)**

1- The texture of the site is categorized in this research into three main type:

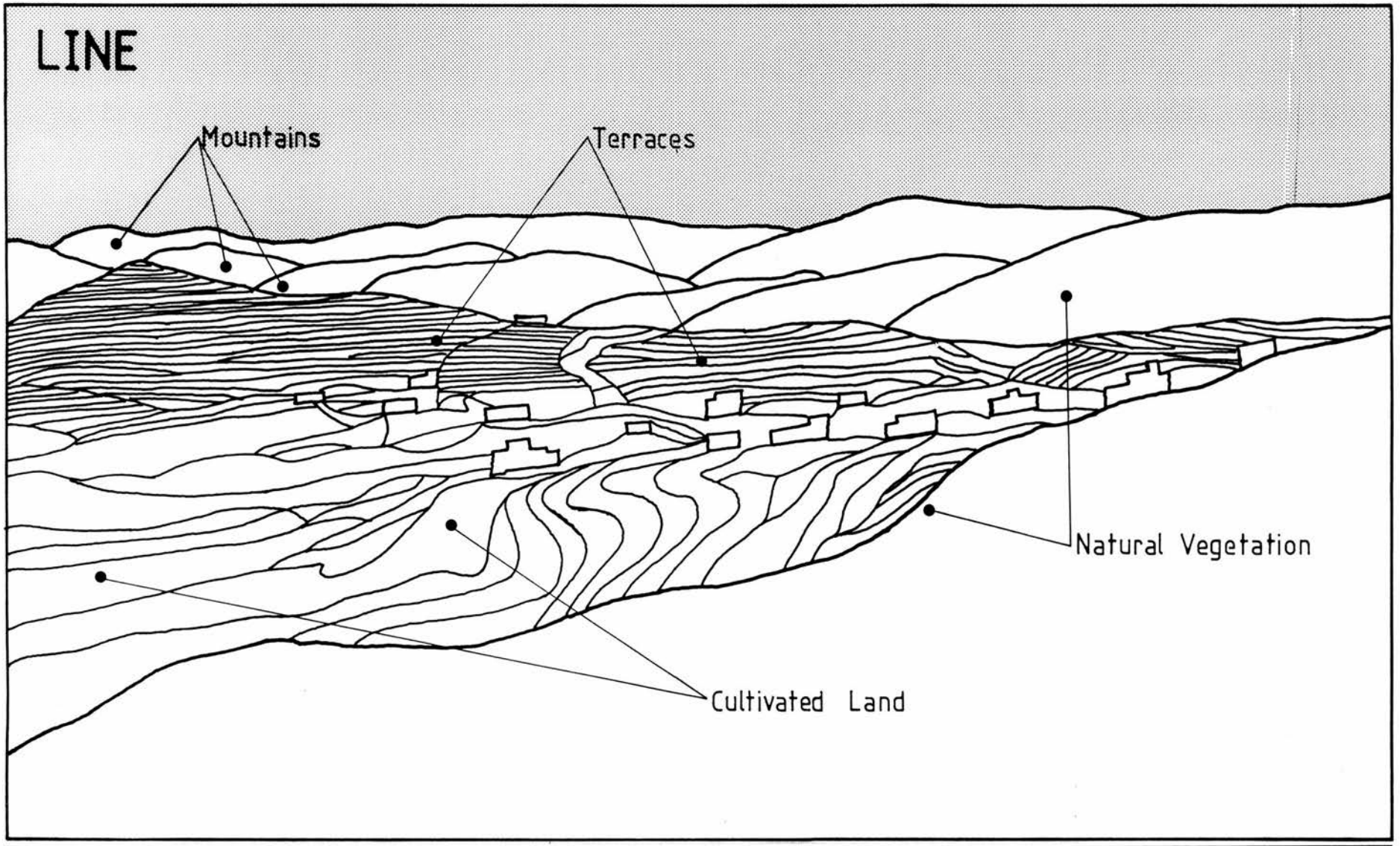
-**Hard texture**: represented by rocks, gravel and sand covering the main road to the site.

- **Mixture of hard and soft textures**: represented by the planted and natural vegetation. The building materials used for construction on terraces and terrains, as well as the mountain slopes represent the hard textures.

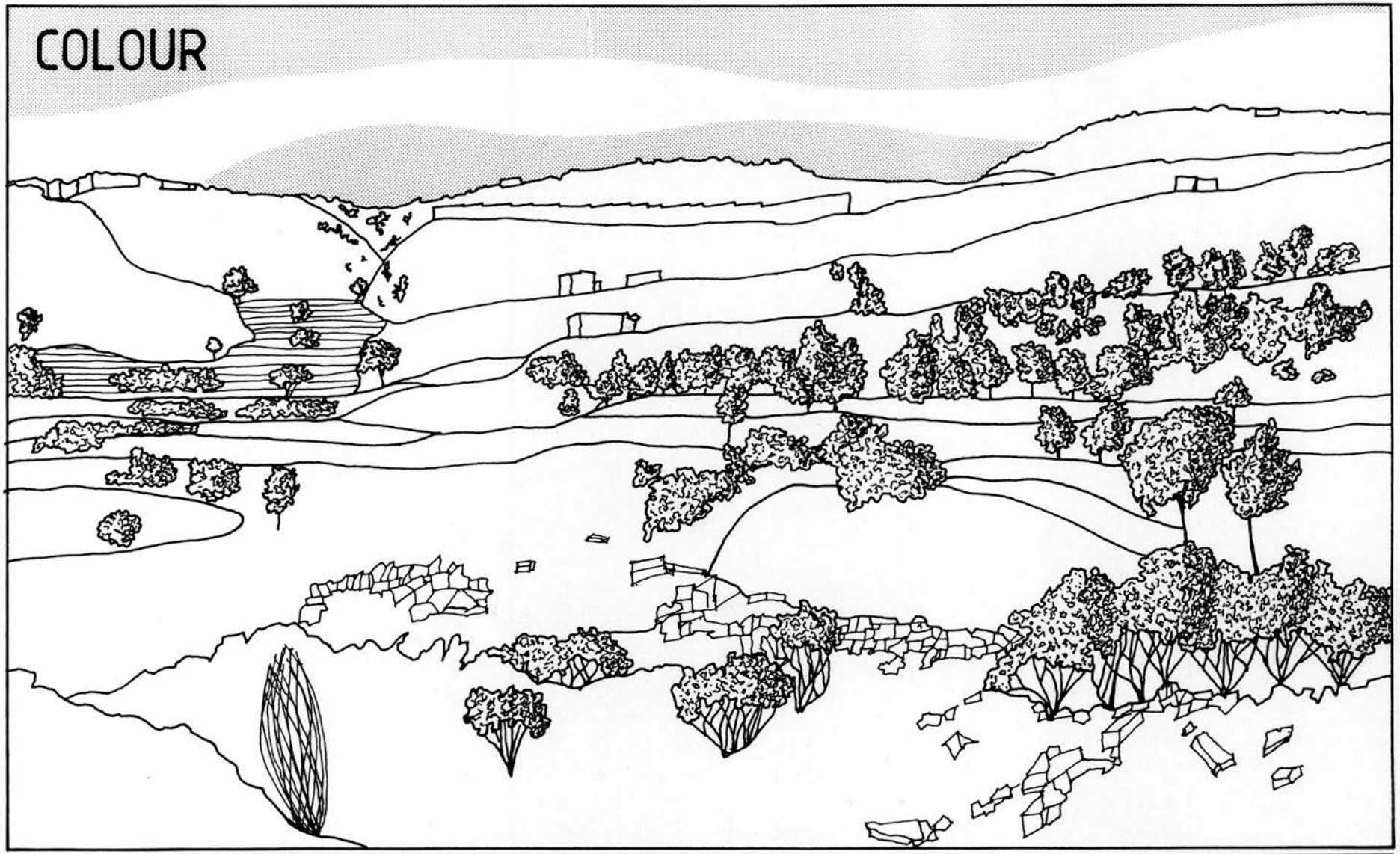
- **Soft texture:** represented by the skyline of the site.



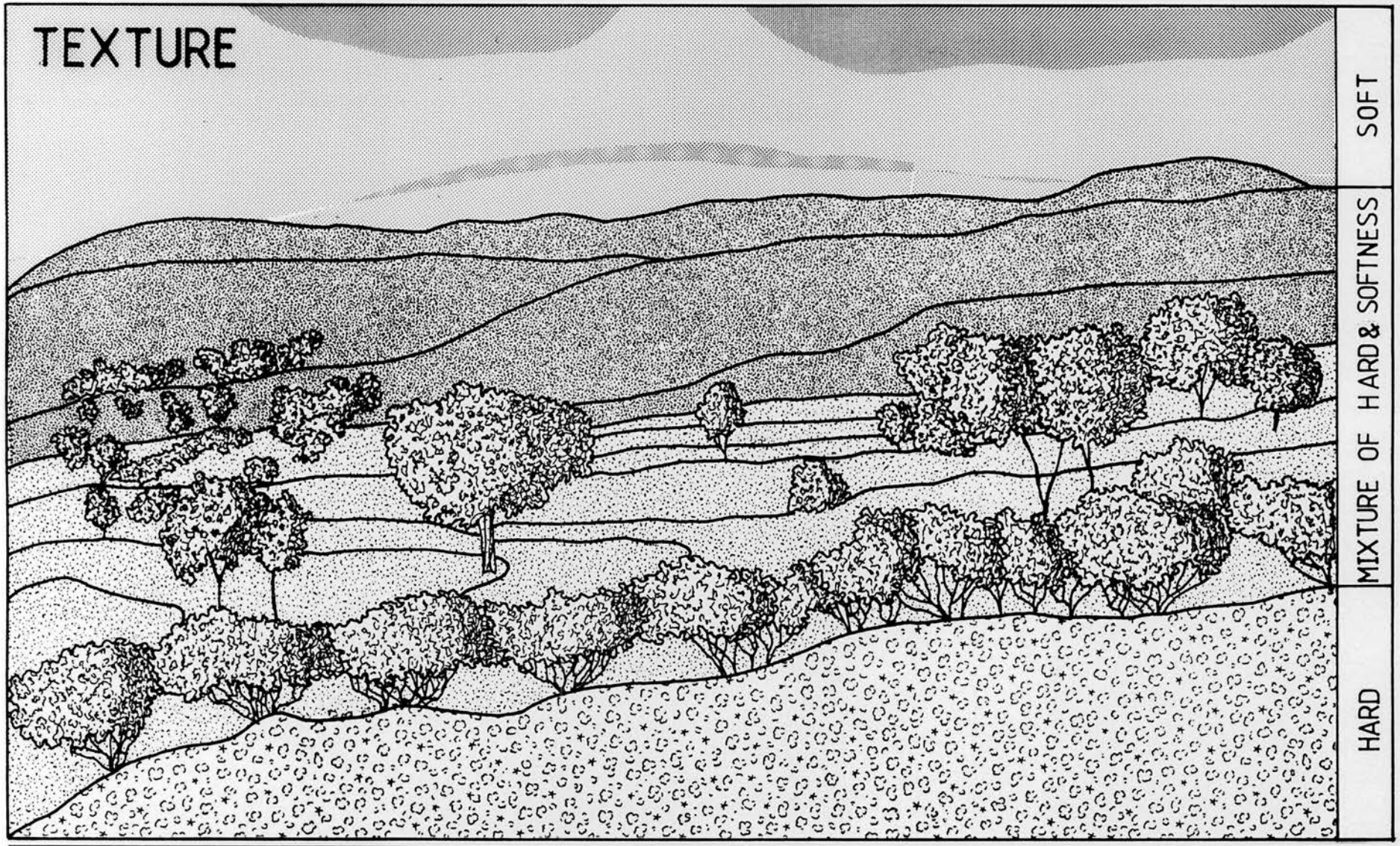
(Figure 4.8) Dominance Landscape Elements



(Figure 4.9) Dominance Landscape Elements



(Figure 4.10) Dominance Landscape Elements



(Figure 4.11) Dominance Landscape Elements

Dominance Principles

1- **Contrast:** (See F**4.12**D**1** F**4.7**P**5**)

Represented by a small hill artificially modified into terraces covered with buildings and visually surrounded by mountains from three sides.

2- **Axis:** (See F**4.12**D**2** F**4.6**P**2**)

This visual feature is represented by the depressed terrain (valley) dividing the site into two distinctive areas of terraced hills.

3- **Codominance:** (See F**4.12**D**3** F**4.6**P**4**)

At a different view point, the existence of large masses of natural vegetation on one side of the site and bare terraces on the other represented two visually dominant features.

4- **Sequence:** (See F**4.12**D**4** F**4.6**P**2**)

The continuity of terraces, gradually gaining size towards the mountains produce a smooth sequence of visual elements directing the eyes to the mountain chain on the far edge (southern) of the site.

5- **Convergence:** (See F**4.12**D**5** F**4.7**P**5**)

The hill located to the centre of the view point of the picture tends to dominate the site by directing the eyes towards it.

6- **Enframement:** (See F**4.12**D**6** F**4.6**P**2**)

Massive plantation and natural vegetation coverage along with the mountain forming the skyline of the view point tends to enclose the view of the site.

Variable Factors

(See figure **4.13**)

1- Observation time: 10 am.

2- Scale: Intimate

3- Observation position:

- High point = road level = 2800 m above sea level

-Mid-point = Terrace level = 2750 m ASL

-Low-point = Terrain level= 2700 m ASL

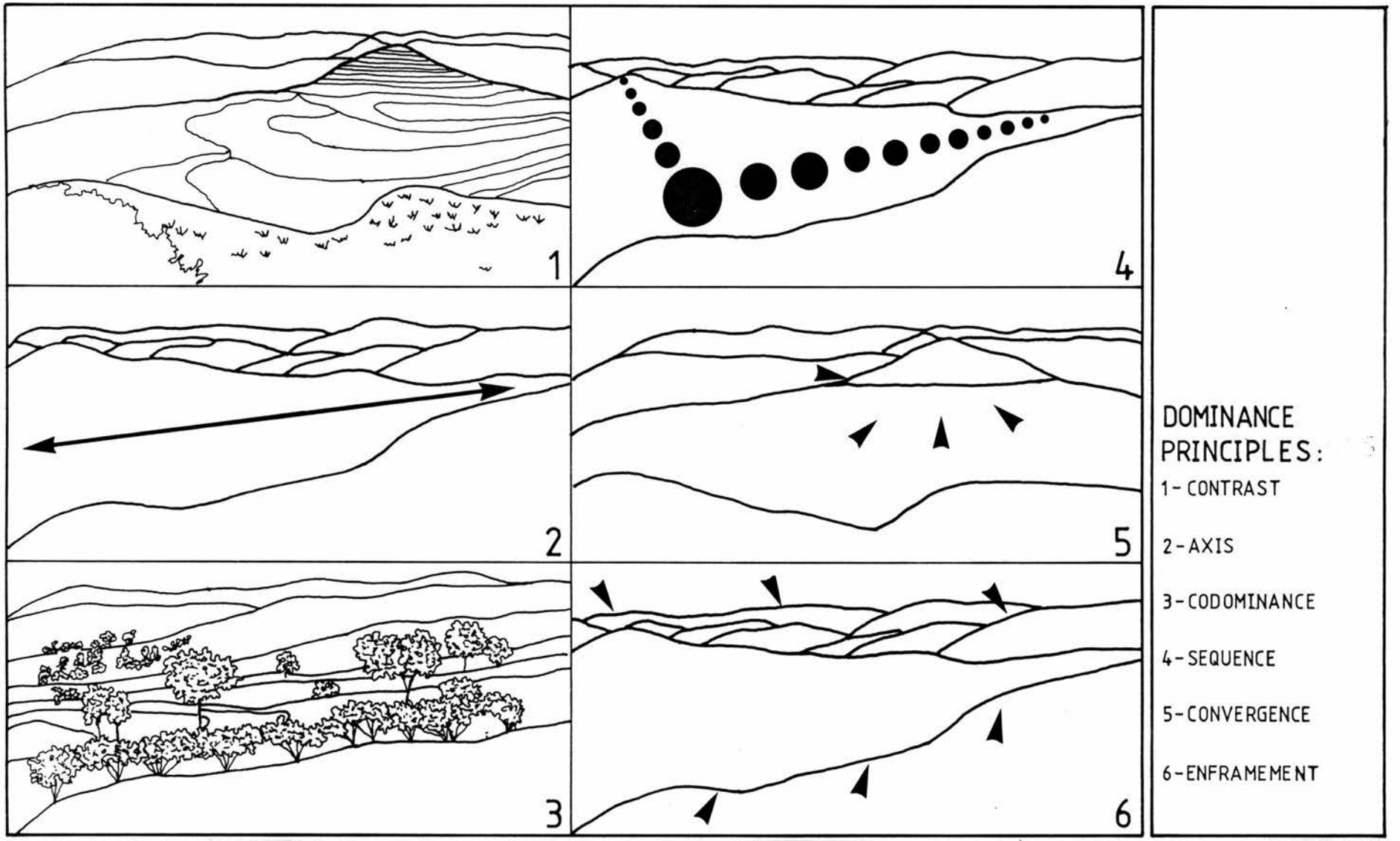
4- Distance: 9 Km from Abha city

5- Season: Summer

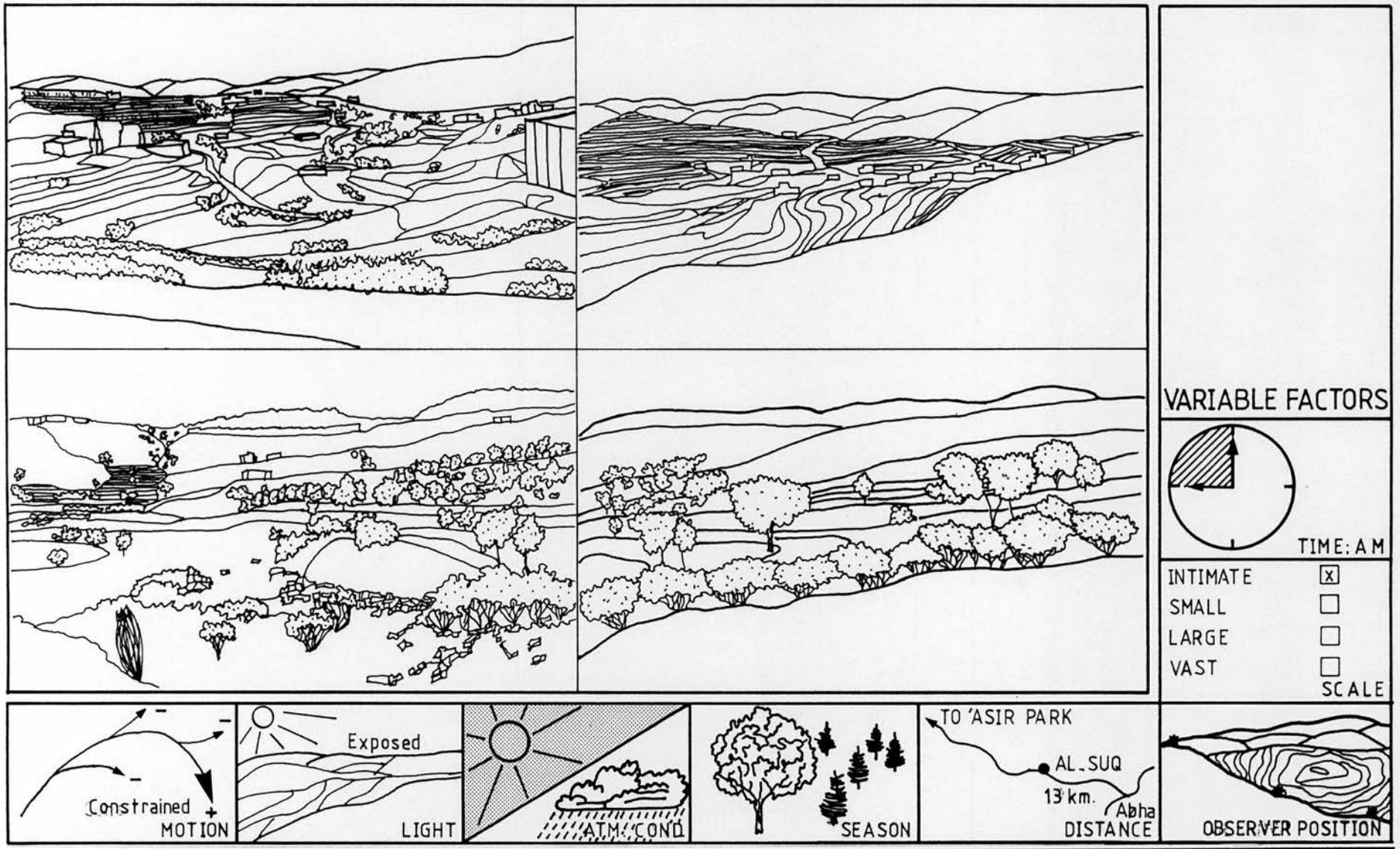
6- Atmospheric condition: Sunny morning and cloudy afternoon.

7- Light: Fully exposed

8- Motion: Partially constrained



(Figure 4.12) Dominance Principles



(Figure 4.13) Variable Factors

Category No. 1: (Developed Areas)

Site No. 2: *MAQHAB*

Physical Features Date of field trip: 14-7-1990

Maqhab is almost identical in its physical and social features to **al-Suq** area. It is a relatively small village situated about 12Km. to the north west of Abha, and to the south of *al-Suq* village, along the main road between the city and the 'Asir National Park al-Soudah along al-Soudah Road. **Maqhab** area is also one of the small suburbs of Abha city, and its proximity to the developed areas and to al-Soudah National Park makes it a tourist attraction. The site is located between 2700m. and 2800m. above sea level (figure **4.14**). AL-Soudah road surrounds the site from a westerly direction and forms a site-boundary towards the south and south east. ***Wadi Khabib*** bounds the village from the north to the north east side, while **al-Suq** village bounds **Maqhab** from the north and north west. The lower part of the mountain slope is occupied by man-made terraces formed by the local villagers to extend the agricultural land and to gather rain water for irrigation purposes (figures **4.14**, **4.15**).

The natural vegetation (Juniper trees), covers mainly the higher part of the site. The local agricultural crops occupy the lower lands, especially near the valley creating a main feature of the village.

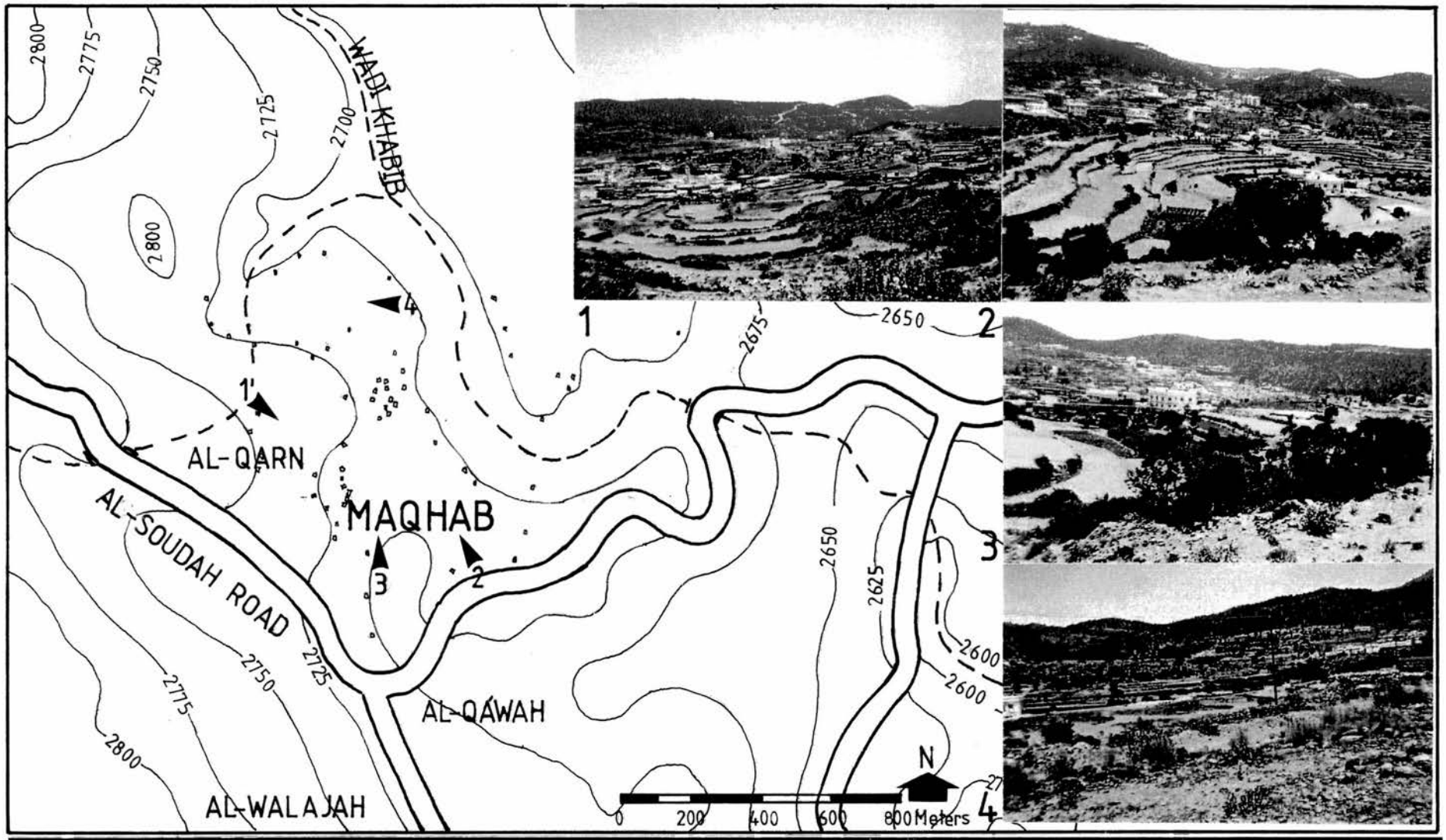
The domestic buildings of the village are scattered around the terraces and highlands. These are characterized by their tendency to emulate the houses of the Abha metropolis in their eclectic styles and their non-vernacular features. These apparent changes, which can be observed in pictures 1 and 2 in this section, are rapidly taking place in the whole region to the extent of representing a distinctive character of their own. Those wishing to remain attached to their tradition have the tendency to develop

their houses in secluded areas away from the rest of the village as if to distance themselves from this "inauthentic" architecture.

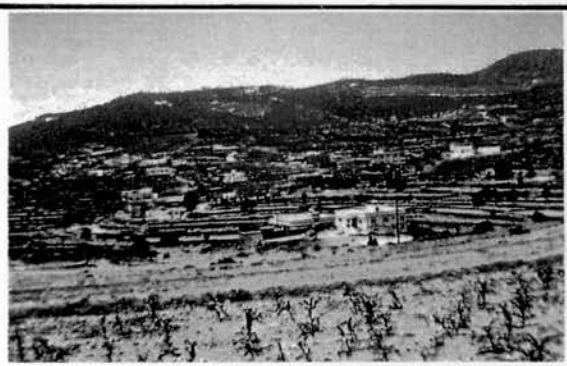
Socio-Cultural Characteristics

Maqhab village is relatively small if compared with other villages in the 'Asir region. Its population is concentrated in two or three masses of development forming separate communities within one village. However, it is characterized by the existence of a collective community, strongly conforming to the traditional ways of autonomy and tribal political system. A sheikh is also appointed by members of the community on the basis of seniority and clan lineage. This has an effect on the overall structure of the community, socially and physically. The intermarriage between members of different communities is reflected in the agglomeration of a number of houses around a communal piece of cultivatable land, resulting in the formation of separate sub-communities. In such cases, mutual economic support becomes the responsibility of the male members of such communities, while the female members take care of the community livestock.

As seen earlier, the traditional economy of the Southern Region of Arabia is generally agricultural, but because of the recent trend for the local youth -traditionally assigned agricultural tasks- to find a governmental job in the larger cities of Arabia, land owners and farmers have had to resort to employing non-native (mostly non-Saudi) labour to carry out the farming, herding and domestic operations.



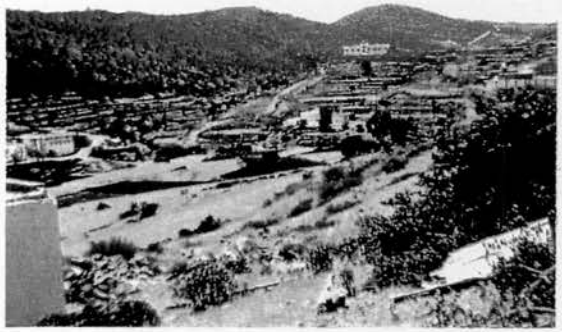
(Figure 4.14) Site Plan of Maqhab Area



Scattered Development 5

The Mosque as a focal point 6

Terraces dominating the site 7



Site Approach 8

Vareity of ground cover 9

(Figure 4.15) Aspects of the Site (Maqhab)

Dominance Landscape Elements

Form: (See F **4.16** P **1**)

1- Overall form dominated by natural vegetation.

2- Small areas of scattered artificial terraces.

3- Skyline dominated by a mountain chain and terraced slopes.

4- Cluster of old and new houses, and scattered newly developed houses on the higher lands.

5- Cultivated lands in the valley bed and other low-lands.

6- Central Mosque representing the focal point within the domestic developments.

Line: (See F **4.17** P **2**)

1- Curvatures dominate the view represented by the mountain chains, terraces and slopes.

2- Scattered new houses represent the hard-line in the site.

3- Narrow paved road represents a continuous curved line cutting the site from many directions.

Colour: (See F **4.18** P **3**)

1- The natural dark greenish colour of plantation and natural vegetation is dominant.

2- The large mass of mountains covered with natural vegetation defines the edge of the site and stresses the overall greenish monotony of the site.

3- Variation in the greenish tone of the site is represented by the three kinds of vegetation:

- **Natural vegetation** (mountain and unused area)
- **Crops** which are planted on the terrain and terraces
- **Productive plants** planted on both terrain and wide terraces

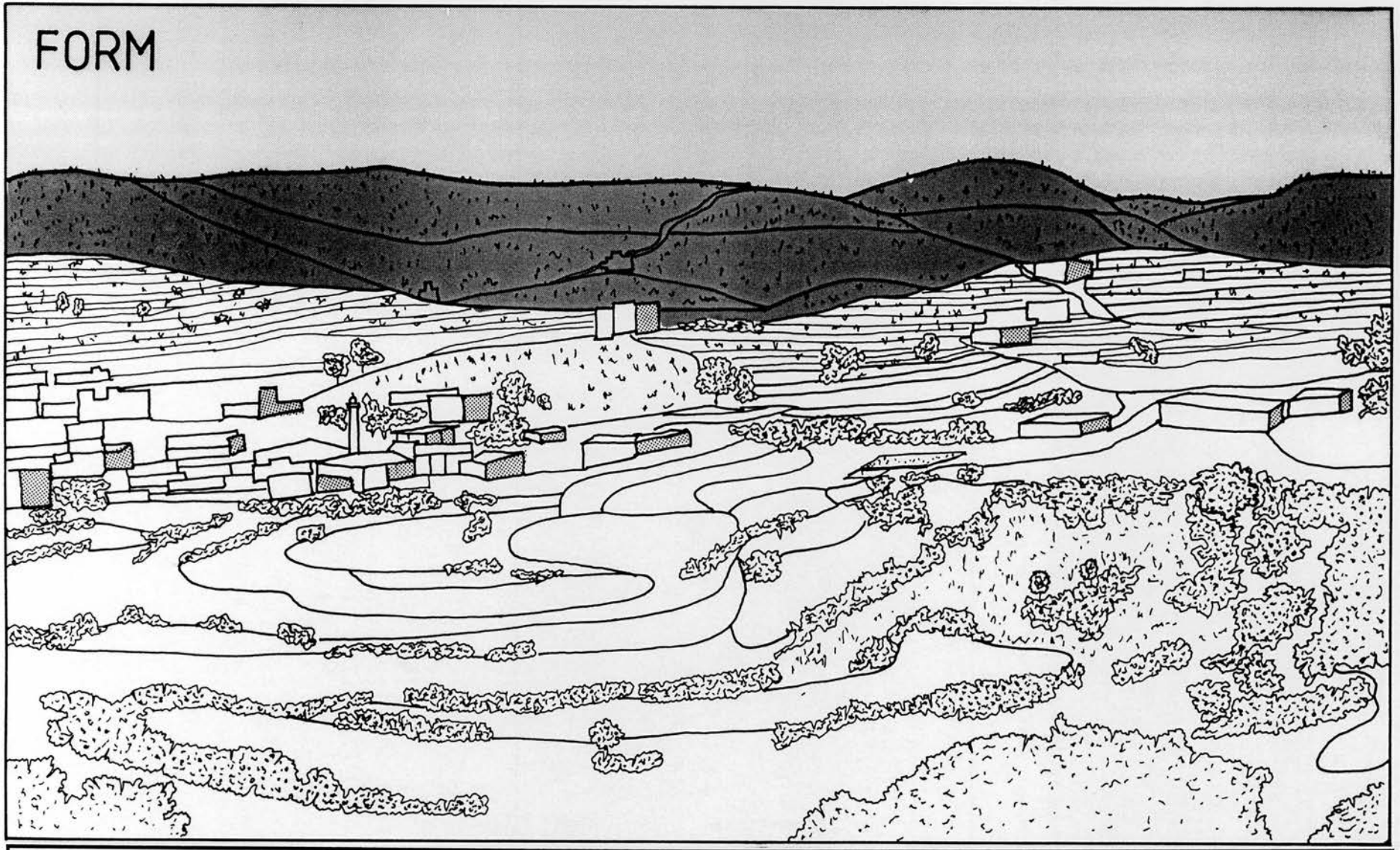
Texture: (See F **4.19** P **4**)

The texture of the site has been categorized into three main type as follow:

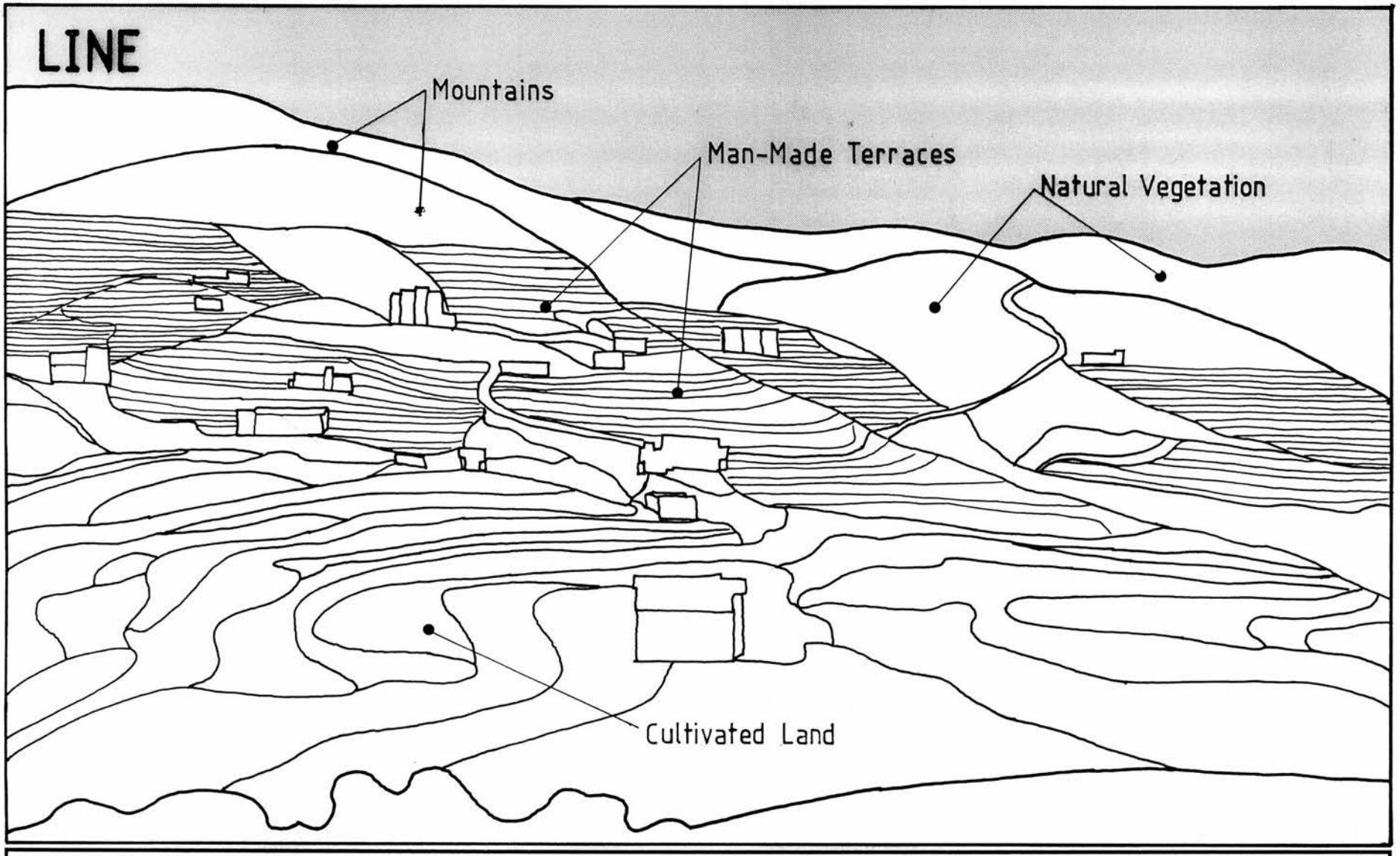
- **Hard**: represented by rocks, gravel, sand and a paved road.

- **Mixture of hard and soft**: represented by the planted and natural vegetation, and the building materials used on terraces and terrains, as well as the slopes of the mountains.

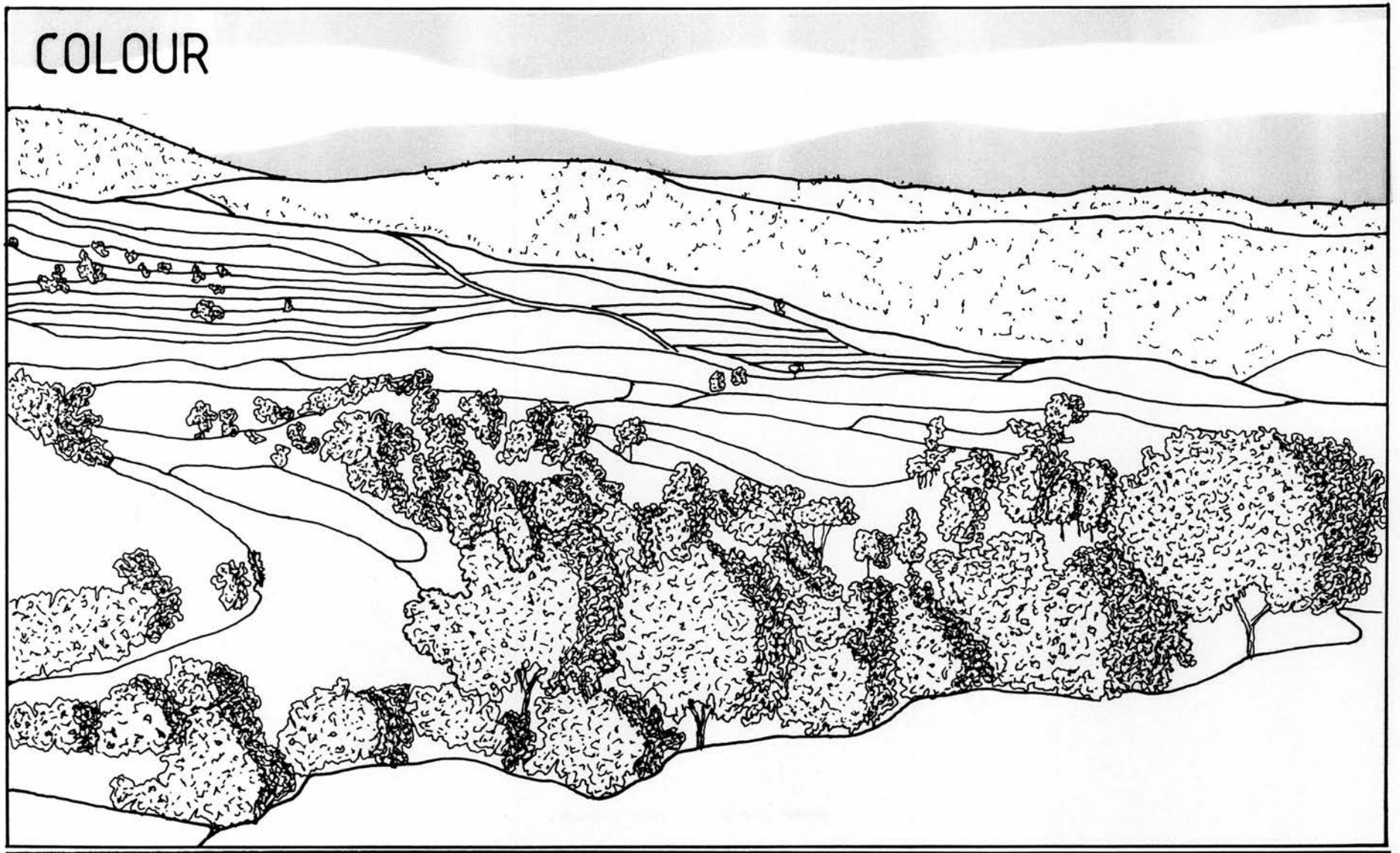
- **Soft**: represented by the skyline of the site.



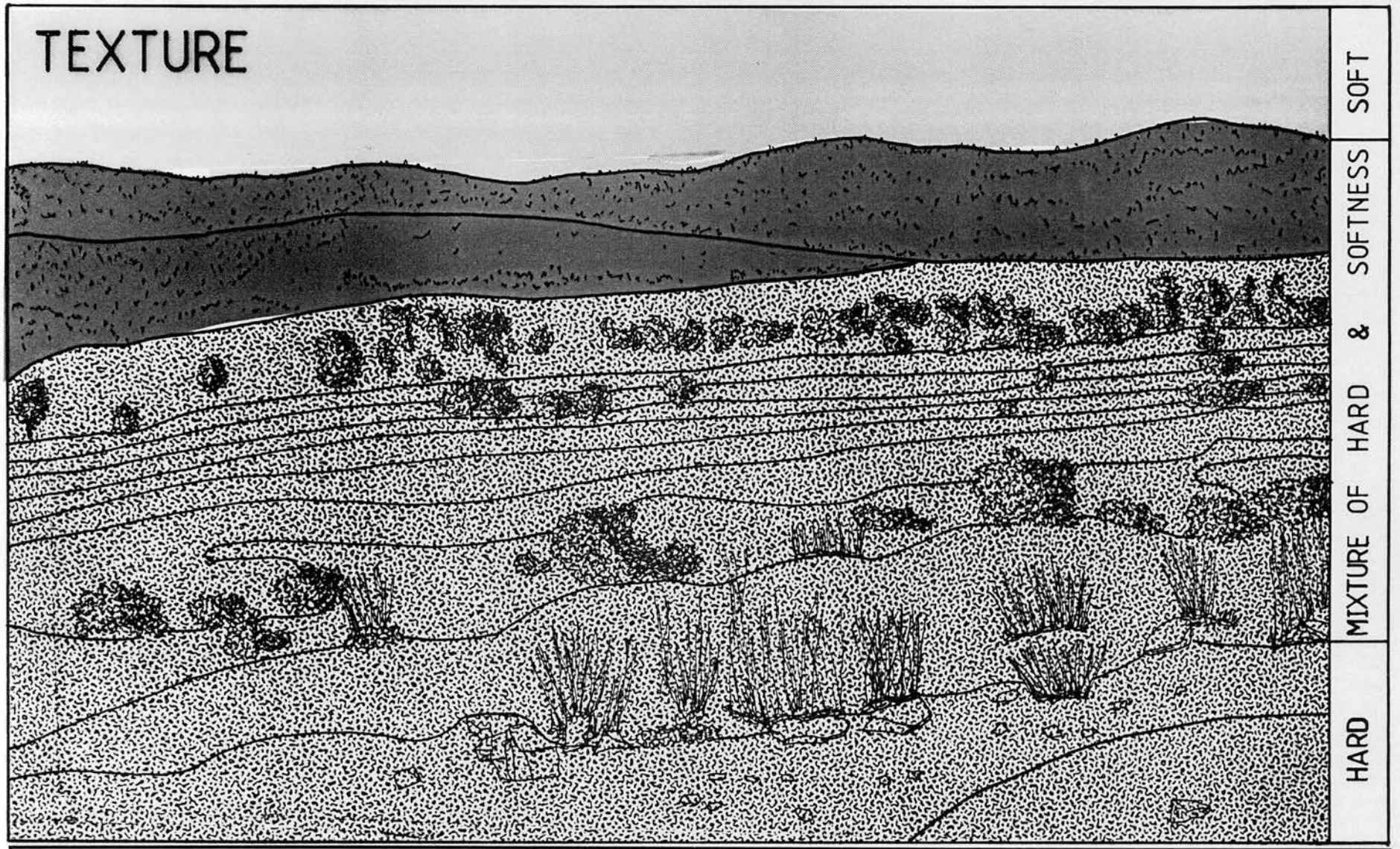
(Figure 4.16) Dominance Landscape Elements



(Figure 4.17) Dominance Landscape Elements



(Figure 4.18) Dominance Landscape Elements



(Figure 4.19) Dominance Landscape Elements

Dominance Principles:

1- **Contrast:** (See F**4.20**D**1** F**4.15**P**6**)

The natural vegetation and the central local Mosque tend to visually dominate the site.

Axis: (See F**4.20**D**2** F**4.15**P**8**)

This visual feature is represented by three distinctive features: terraced hills, a paved road, and cultivated lands.

Codominance: (See F**4.20**D**3** F**4.15**P**7**)

Two poles of visual domination are always at work in the site depending on the view point and particular interest of the observer. The first is represented by the terraced slopes. The second alternate visual dominant is size of the areas covered with natural vegetation.

Sequence: (See F**4.20**D**4** F**4.14**P**2**)

The continuity of terraces, gradually gaining size towards the mountains produce a smooth sequence of visual elements directing the eye to the mountain chain which appears to form the background and the edge of the site.

Convergence: (See F**4.20**D**5** F**4.14**P**1**)

This feature is dominated by the Mosque which is located in the centre of the view point.

Enframement: (See F**4.20**D**6** F**4.15**P**9**)

Massive plantation and natural vegetation, along with the mountain forming the skyline of the view tend to enclose the view of the site.

Variable Factors:

(See figure **4.21**)

1- Observation time: 11 am.

2- Scale: small

3- Observation position:

- **High point** = Country side road = 2750 m above sea level
- **Mid-point** = terraces = 2725 m ASL
- **Low-point** = terrain level = 2700 m ASL

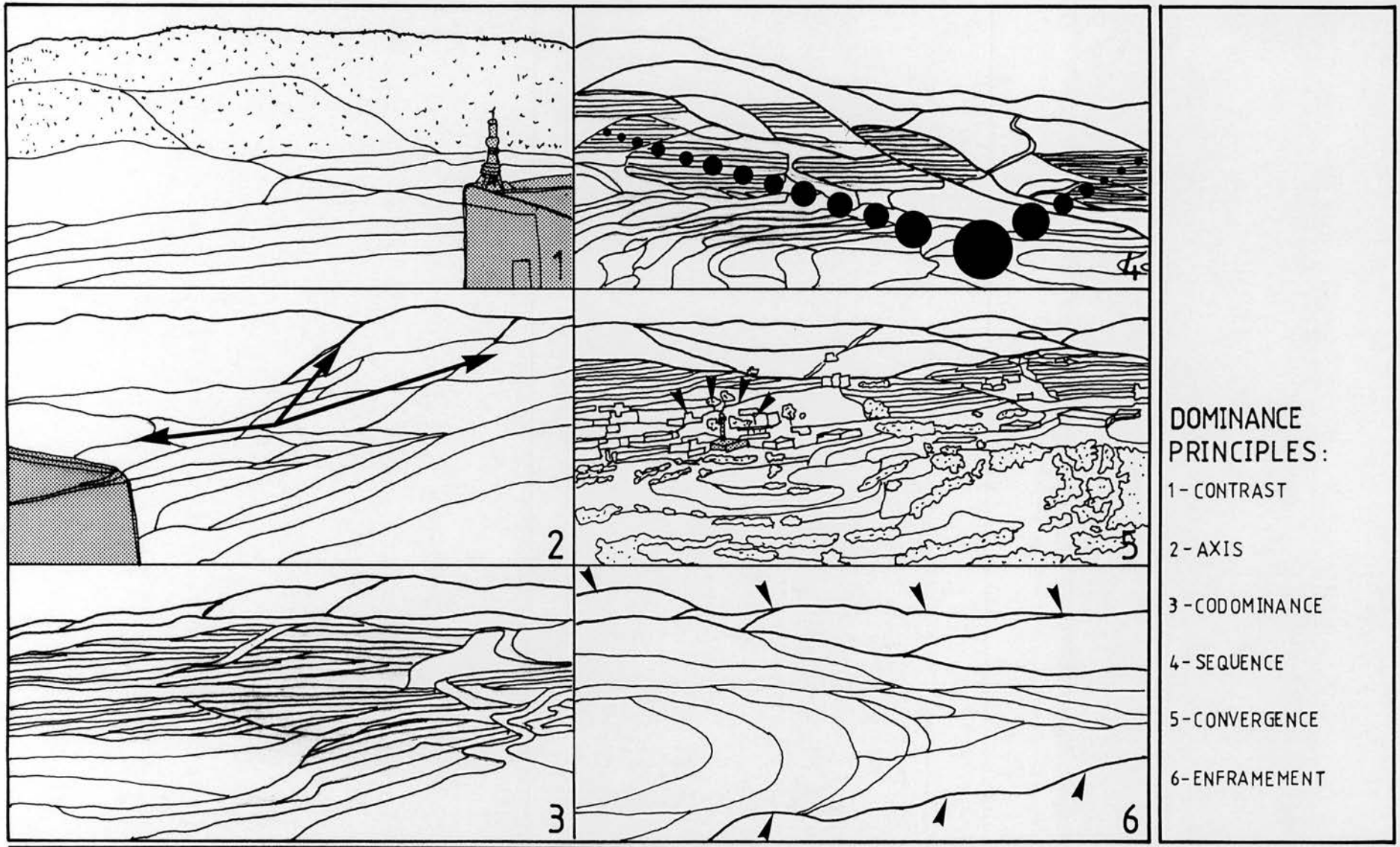
4- Distance: 12 Km from Abha city

5- Season: Summer

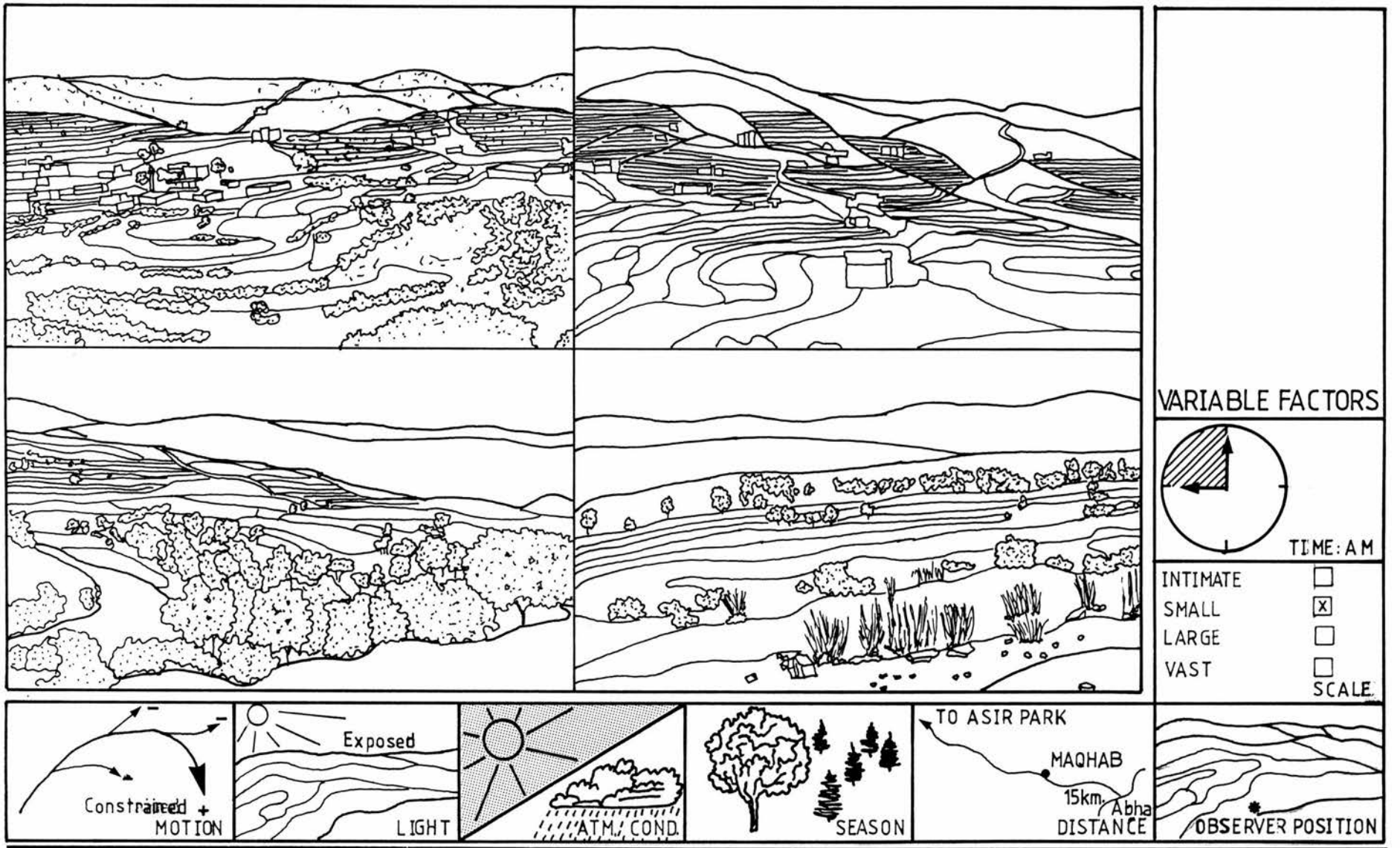
6- Atmospheric condition: Sunny morning and cloudy afternoon

7- Light: fully exposed

9- Motion: Partially constrained



(Figure 4.20) Dominance Principles



(Figure 4.21) Variable Factors

Category No. 1: (Developed Areas)

Site No. 3: *ADADAH*

Physical Features Date of the field trip: 15-7 1990

Adadah village is located between 2175m. and 2100m. above sea level. Terraces are not a common feature in this village because of the relative flatness of the area (figure **4.22, 4.23**). It is one of the newly developed areas in the region of 'Asir. Unlike the two previous sites, **Adadah** does not represent a major tourist attraction mostly because of its rugged topography. It is situated about 13Km. to the south east of Abha, along the main road between the city itself and the 'Asir National Park known as ***al-Qar'aa*** Park along **al-Qar'aa** Road.

This area is virtually concealed from the main road: the main part of the village and its houses are located about 20 to 25 meters below the main road level, towards the slopes of Tihama (figure **4.23** P **5**). Accordingly, most of the houses are built on steep slopes.

Artificially-dug wells are another feature in this village. Although these exist in almost every village in the region of 'Asir, their importance in providing water in non-terraced areas make them a vital necessity. The natural vegetation covers most of the flat parts of the site with the *'ar-'ar* Juniper trees, along with grass which is vital for grazing. Apart from these vegetation elements, a relatively small portion of the land has been allocated for cultivation purposes (figure **4.22** P **2**).

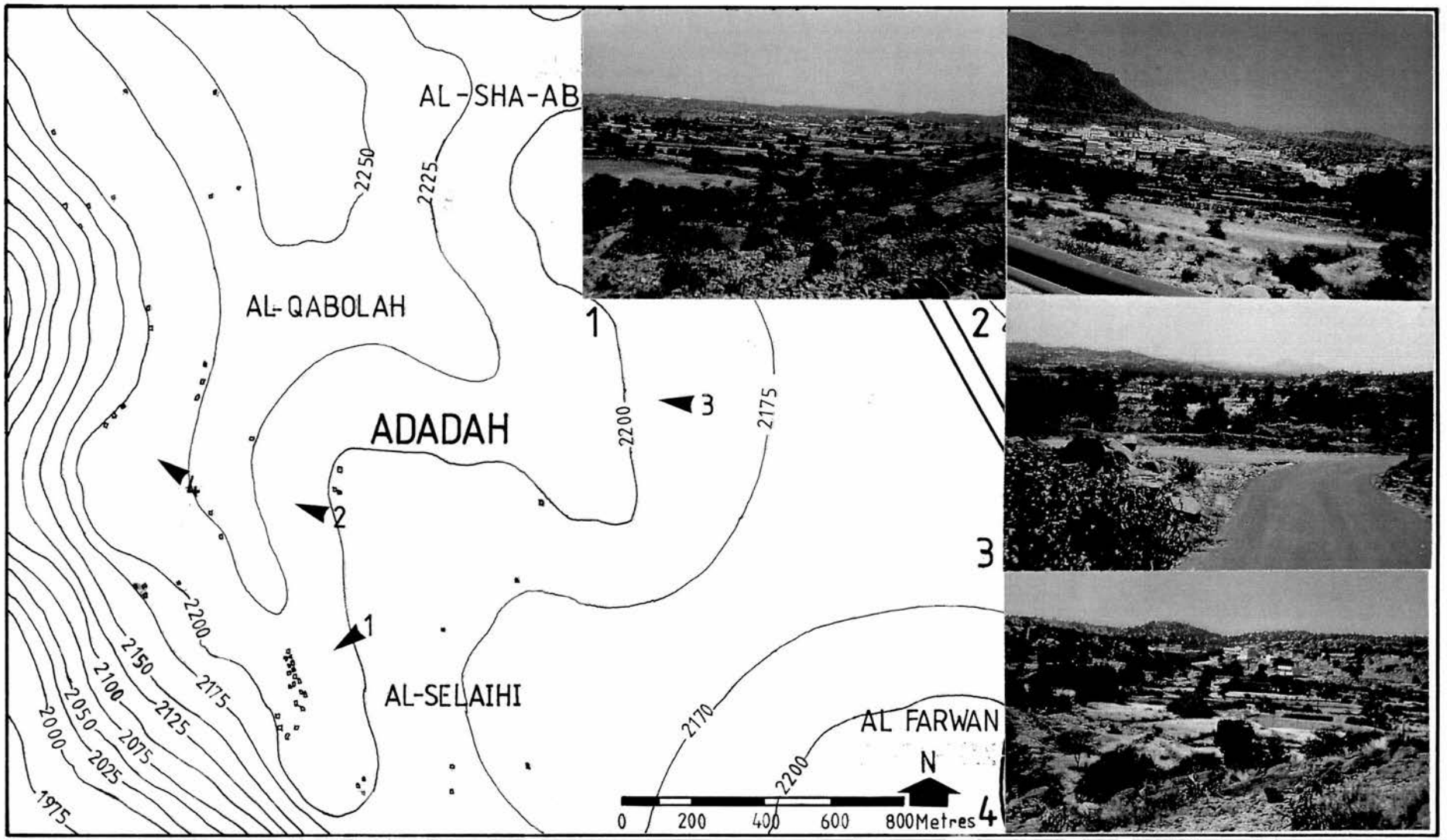
Adadah is one of the villages that still maintains strong ties with its domestic architectural heritage (figure **4.22** P **2**), although most site observations showed several ruined abounded traditional houses. These were mostly houses that were inhabited four

or five years ago but could not withstand the toll of the damp weather, or were intentionally abandoned by their owners who left for the city of Abha. The natives concern for the preservation of their tradition was extended to include trees and wild animal species as observed in figure **4.23** picture **7**, where one of the oldest trees on the site was protected by the community.

Socio- Cultural Characteristics

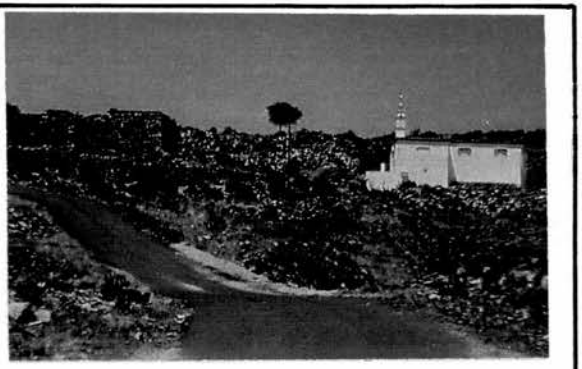
Socially speaking, the natives of **Adadah** did not show the usual unfriendliness characteristic of the closely-knit communities of 'Asir. A group of elderly natives from the region approached the observer with extreme generosity and offered their assistance to answer all inquires. While this should not be held as a general character of the region, this friendly approach by the natives was of great help to the completion of this section.

The local economy is generally dependant on the 'Asir metropolitan area. Most of the income to the area was provided by governmental wages rather than a local agricultural source as in the case of the previous sites. Because of the relatively small agricultural lands, agricultural products are consumed internally.



(Figure 4.22) Site Plan of Adadah Area

Grazing land 5



Abandoned houses 6

Preservation of nature by locals 7

Local access 8

Visual characteristics 9

(Figure 4.23) Aspects of the Site (Adadah)

Dominance Landscape Elements

Form: (See F **4.24** P **1**)

1- Mixture of masses of natural vegetation and plantation.

2- Absence of man-made terraces (flatness).

3- Scattered abandoned and newly developed houses.

4- An overall flat land used for agricultural needs.

5- Smooth, distant skyline, with absence of the mountain chain (depending on the viewpoint).

Line: (See F **4.25** P **2**)

1- Curvatures dominate the lower levels of the view point represented by the flat Terrain and the smooth un-terraced mountain slope.

2- Clusters of old and new houses on the lower parts of the site.

3- Cultivated land surrounding the residential sites.

Colour: (See F **4.26** P **3**)

1- As in the previous sites, the natural dark green colour of vegetation is dominant on the highlands.

2- Mountains are covered by small areas of natural vegetation.

3- Variation of the greenish tone of the site is represented by the three kind of vegetation available on the site, for example:

- **Natural vegetation** covering the higher lands and mountains.
- **Planted vegetation** to identify the boundary of the properties.
- **Productive plants** in private gardens.

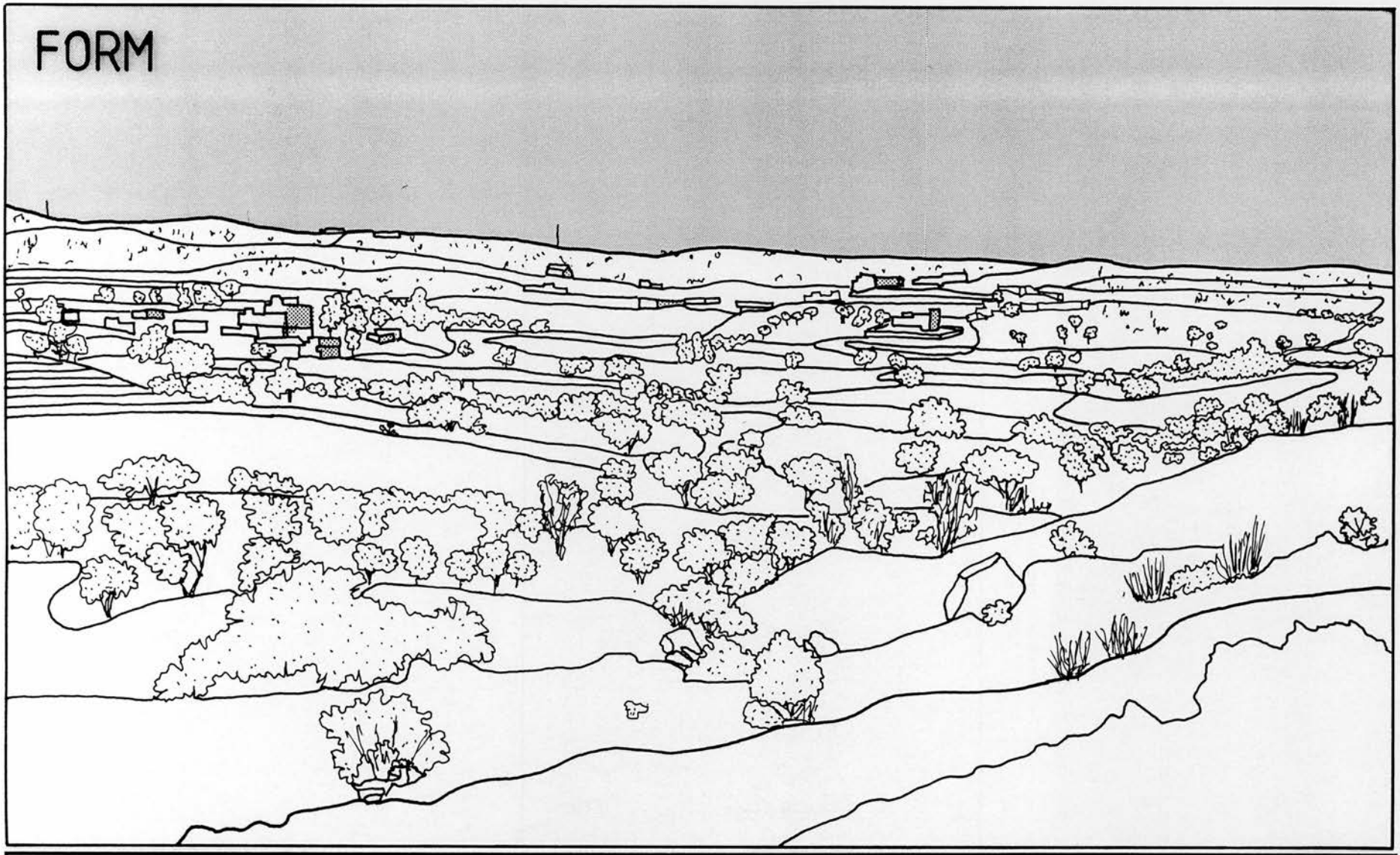
Texture: (See F **4.27** P **4**)

1- The texture of the site has been categorized into three main types as follows:

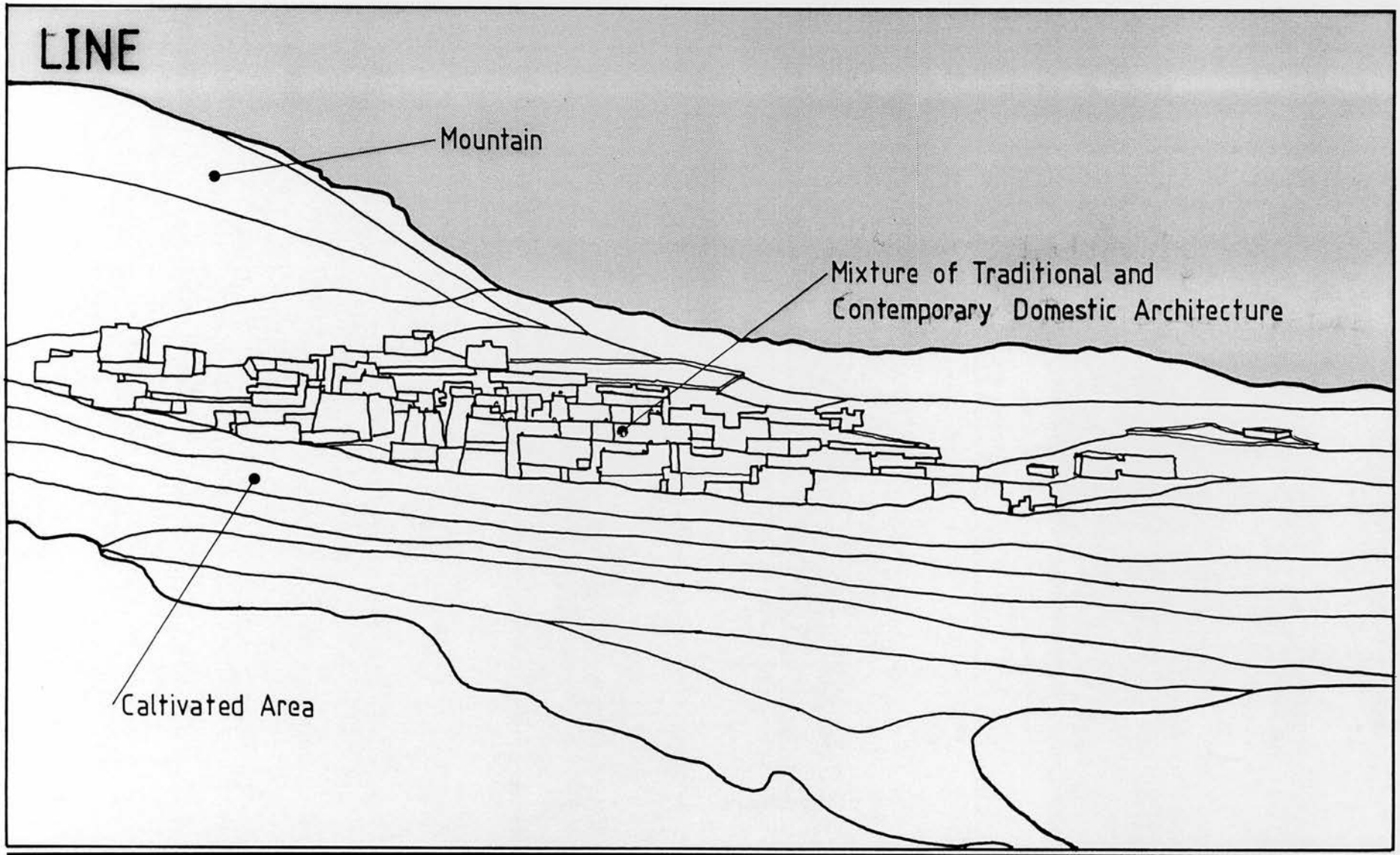
- **Hard:** represented by rocks and gravel towards the approach of the site.

- **Mixture of hard and soft:** represented by planted and natural vegetation, and the ruins of houses

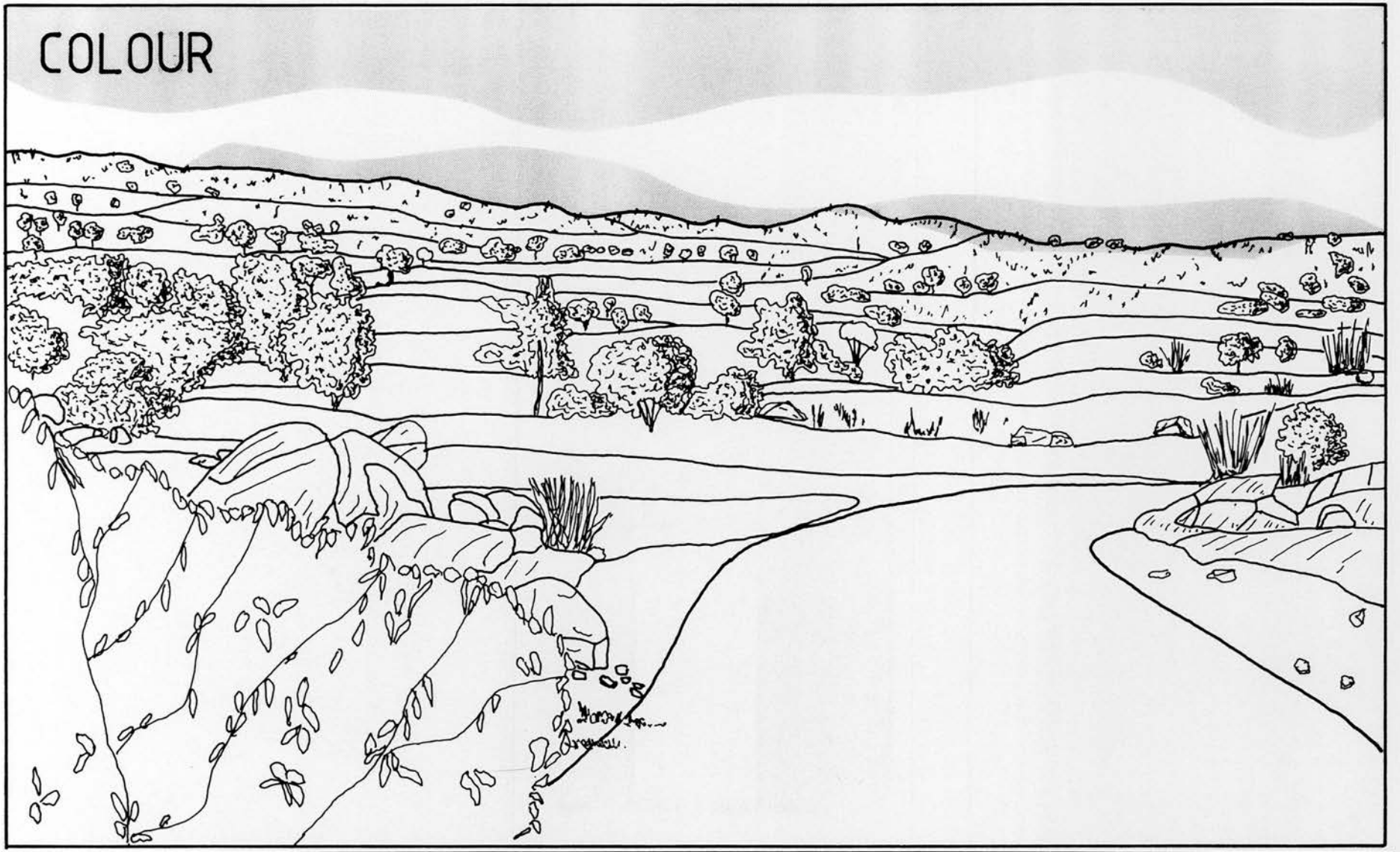
- **Soft**: represented by the relatively smooth skyline of the site.



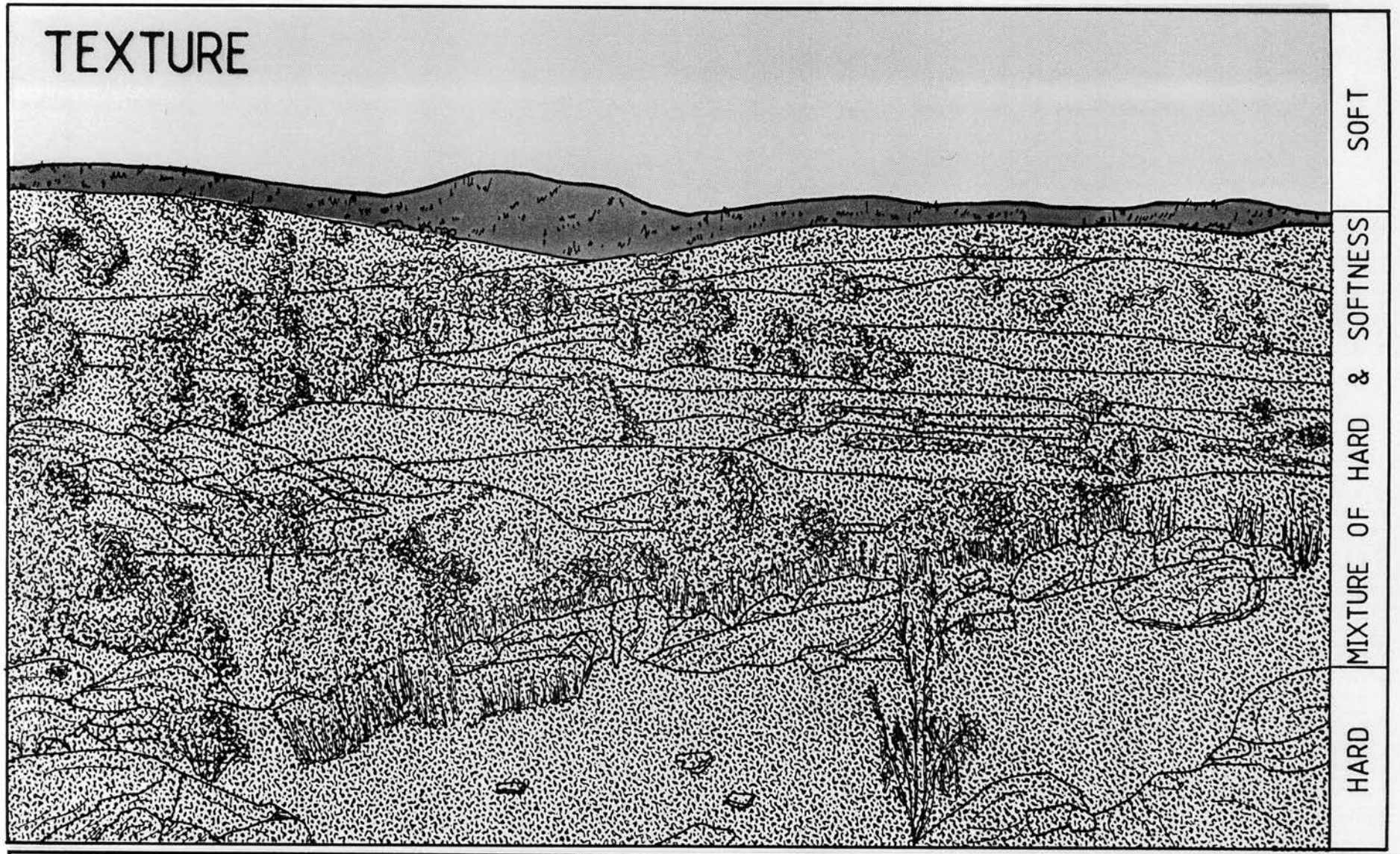
(Figure 4.24) Dominance Landscape Elements



(Figure 4.25) Dominance Landscape Elements



(Figure 4.26) Dominance Landscape Elements



(Figure 4.27) Dominance Landscape Elements

Dominance Principles

1- **Contrast:** (See F**4.28**D**1** F**4.22**P**2**)

A small cluster of old and new houses, surrounded by the mountain, balancing hard and soft visual elements.

2- **Axis:** (See F**4.28**D**2** F**4.22**P**1**)

This visual feature is represented by the depressed terrain (flat land) which is distinctive in this particular site.

3- **Codominance:** (See F**4.28**D**3** F**4.22**P**3**)

The flatness of site and the natural vegetation are visually dominating features.

4- **Sequence:** (See F**4.28**D**4** F**4.22**P**3**)

The continuity of the terrain (flat land) occupies most of the confronting area. This tends to visually direct the eyes to the apparent vastness of the site and the absence of inhabited areas.

5- **Convergence:** (See F**4.28**D**5** F**4.22**P**2**)

Clustered ruins of houses as well as the newly developed communities occupying the central focal point of the site.

6- **Enframement:** (See F**4.28**D**6** F**4.22**P**1**)

The flatness of the land and the natural vegetation, supported by the clear visual access from the observation point to the sky line allows for a simple and clearly enframed site to evolve.

Variable Factors

(See figure **4.29**)

1- Observation time: 12 am.

2- Scale: Vast

3- Observation position:

- High point = road level = 2175 m above sea level
- Lower point = slope level = 2100 m ASL

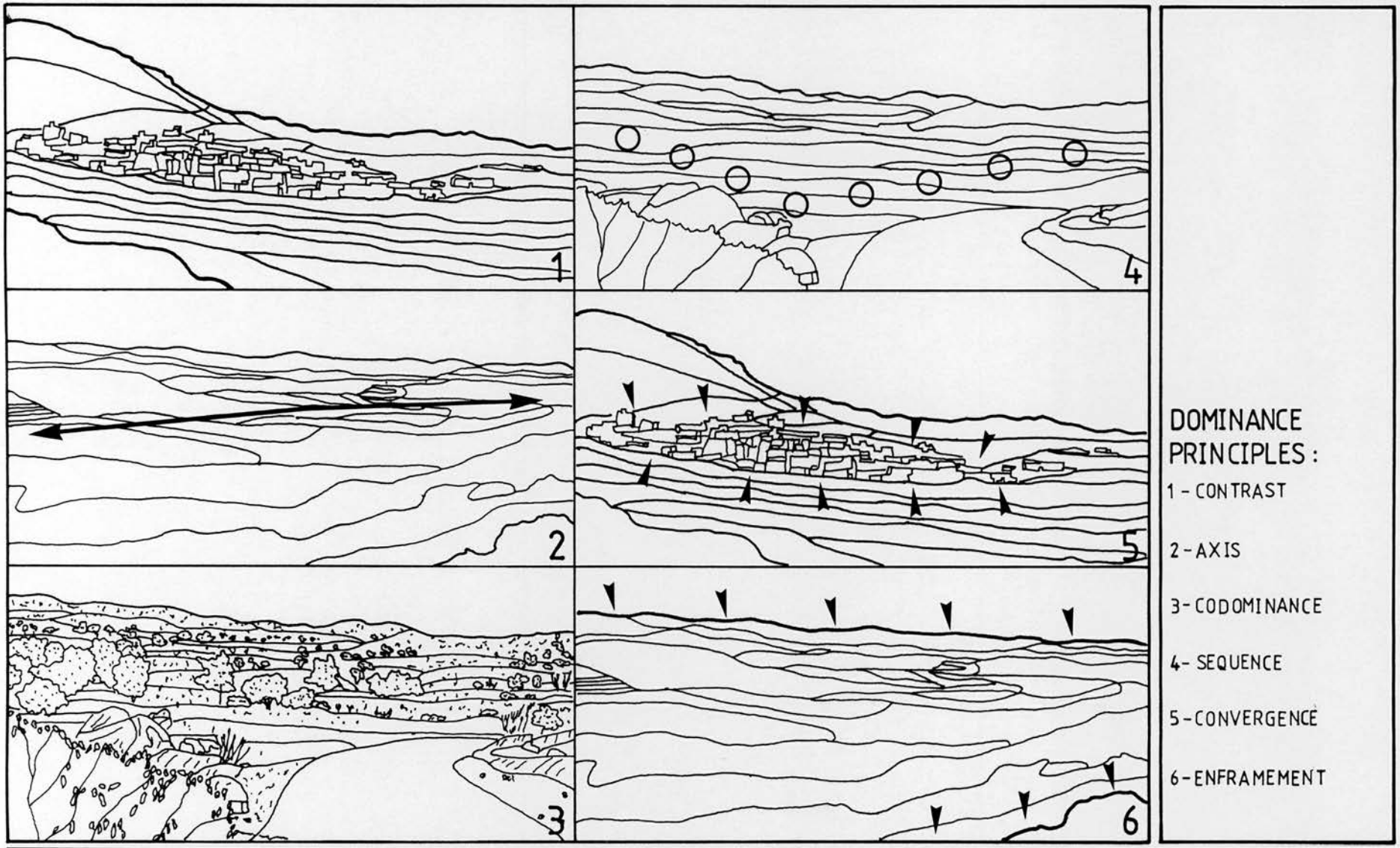
4- Distance: 13 Km from Abha city

5- Season: Summer

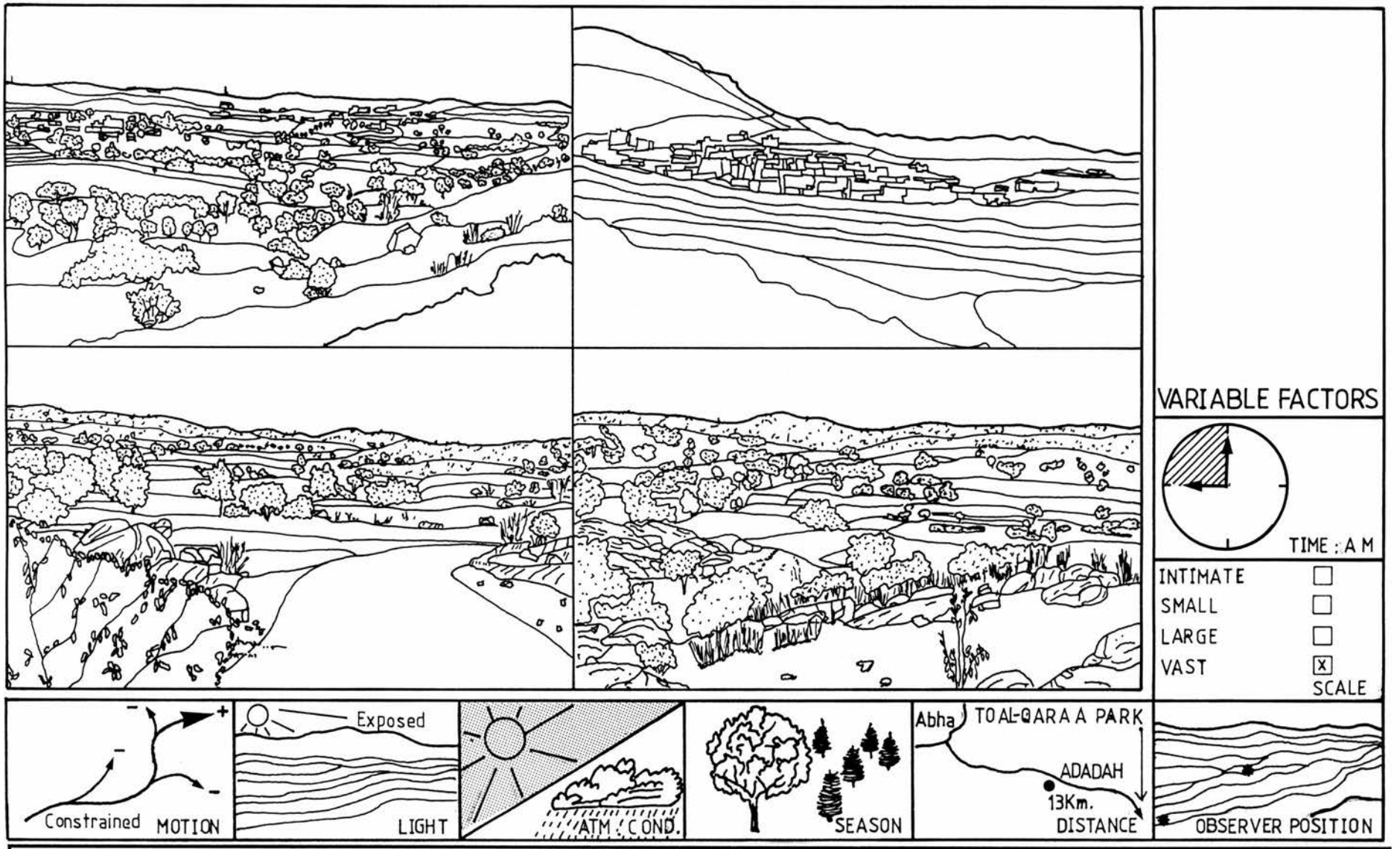
6- Atmospheric condition: Sunny morning with light cloud cover in the afternoon time

7- Light: Fully exposed

8- Motion: Partially constrained



(Figure 4.28) Dominance Principles



(Figure 4.29) Variable Factors

Category No. 2: (Rural Area)

Site No. 1: *AL-'IKAS*

Physical Features Date of the field trip: 16- 7-1990

Al-'Ikas rural area is one of the villages which is attracting the concerned governmental agencies as a potential conservation site. The municipality of Abha city has begun a comprehensive study to preserve the cultural identity of the village. This village is situated about 12Km. to the north of Abha, along the main road (al-Soudah road). It is then connected to the north with an arterial road for a distance of 2km. after which a secondary road to the north east leads to the village of ***Al Zaydi***. The site itself is located between 2400m. and 2500m. above sea level and surrounded by small a chain of mountains (figure **4.30**).

The analysis of this site witnessed a slight shift in the techniques of observation because of technical problems. Visual analysis depended on sketches and aerial photographs of the village. These photographs were supplied by the municipality of Abha which is currently conducting research of the site. Ian McHarg's method of aerial photography surveys were utilized as a further support to the undertaking of this section of the research.

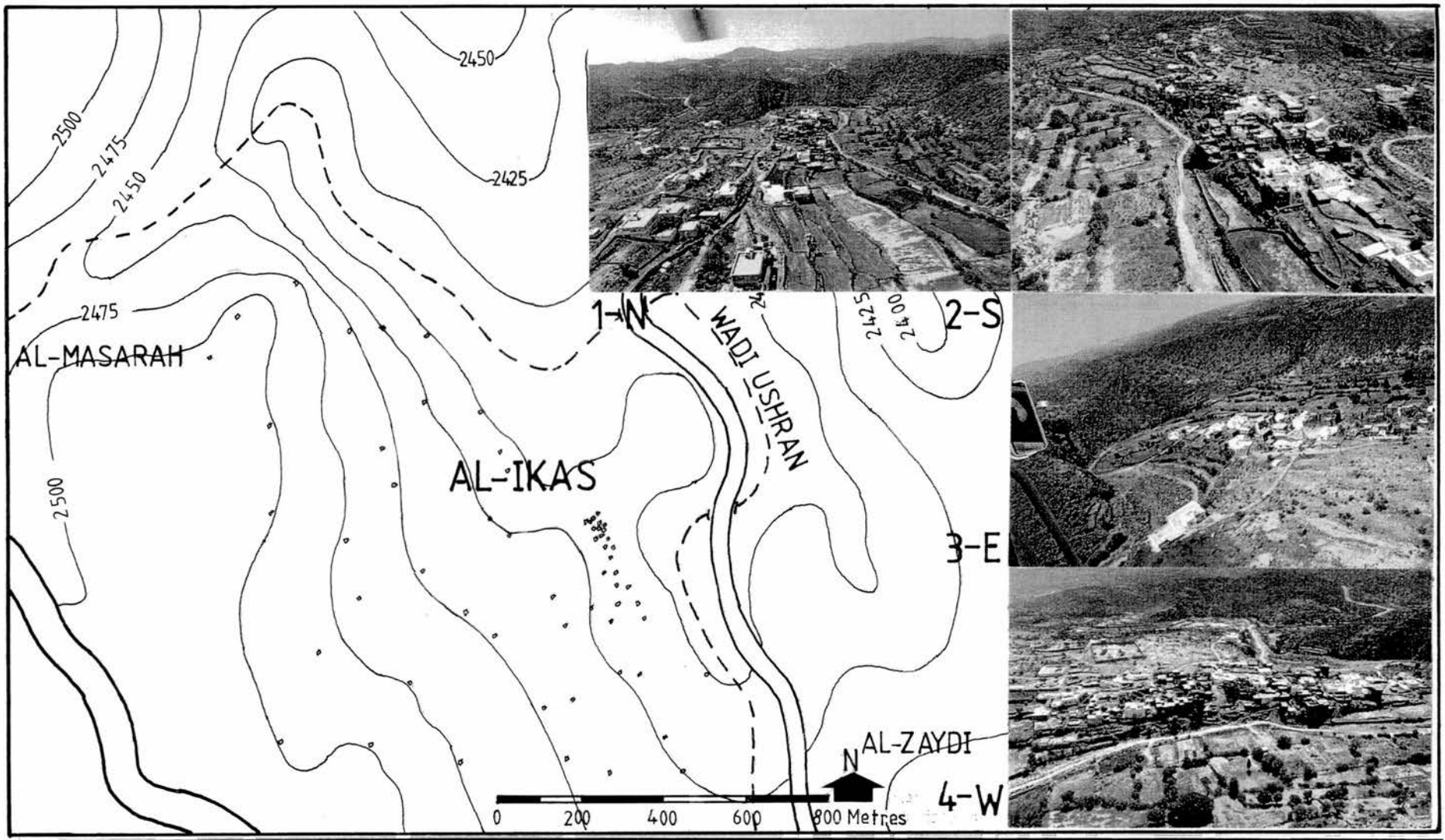
As is common in this part of Arabia, the natural vegetation tends to cover most of the site, especially the slopes of the surrounding mountains (figure **4.30** P **3**). Apart from these elements of vegetation, the local inhabitants used planted vegetation to surround their lands as a soft boundary to their properties instead of using concrete block walls which tend to destroy the character of the site (figure **4.30** P **2** and **4**).

Aerial photographs and interviews with the staff of the municipality of Abha indicated a recently emerging problem of haphazard development of "non-vernacular" houses, occupying relatively large plots of agricultural lands. These are following a linear pattern of development (from north to south). Meanwhile, the expansion taking place to west and south west of the village is still following a contemporary domestic architectural style, mainly used as summer resorts for the population of the region of 'Asir. Furthermore, these new trends are encouraging the residents of the traditional communities to follow suit, whether in architectural style or through their tendency to move to these new developments (figure **4.30**, **4.31**).

The municipality of Abha's report indicated that the local economy of the village still depends on agriculture as the main source of income. This is a continuation of the economy of the Southern region of Arabia, despite the recent trend of young locals to migrate to the city for governmental jobs. The distinctively rich soil of the village helped boost the abundant agricultural products. Another main support for the agricultural prosperity of the village is represented by the location of this site on the west of ***Wadi Ushran*** which flows and deposit its valuable water into the biggest valley in Abha city known as ***Wadi Abha***.

Socio-Cultural Characteristics

The main concern of the municipality of Abha is to preserve ***al-'Ikas*** area as a traditional example of domestic architecture as well as a collective and stable homogeneous community. This rural society is also still governed by a *Sheikh* who represents the governmental authorities as well as being a symbol of a traditional lifestyle of an age-old society. It is a tightly-kit community where social and economical cooperation is still vital for the livelihood of most residents.



(Figure 4.30) Site Plan of Al-'Ikas Area

South view: Linear development 5

West view: Site accessibility 6

North view: New development 7

(Figure 4.31) Aspects of the Site (Al-'Ikas)

Dominance Landscape Elements

Form: (See F **4.32** P **1**)

1- Overall form dominated by masses of natural vegetation.

2- Small areas of terraced slopes (Mastabat) located on the steep slopes.

3- Skyline dominated by a mountain chain and building profiles.

4- Clustered traditional and newly developed houses.

Line: (See F **4.33** P **2**)

1- Curvatures trends to dominate the view represented by the mountains, flat terrain, and existing tracks of major and minor road network.

2- Narrow and unpaved roads represent a continuous curved line cutting the site from every direction.

3- Clusters of old and new houses represent the hard-lines.

Colour: (See F **4.34** P **3**)

1- The natural colour of plantation and natural vegetation is dominant, along with spots of bright white represented by scattered buildings.

2- The green mountain slopes, covered with the small volumes of the natural vegetation stresses the overall monotonousness green of the site.

3- Variations of the greenish tone of the site is represented by the three kinds of vegetation as follows:

- Scattered natural vegetation covering the mountains and unused area.
- Agricultural fields.
- Planted vegetation as boundary fences.

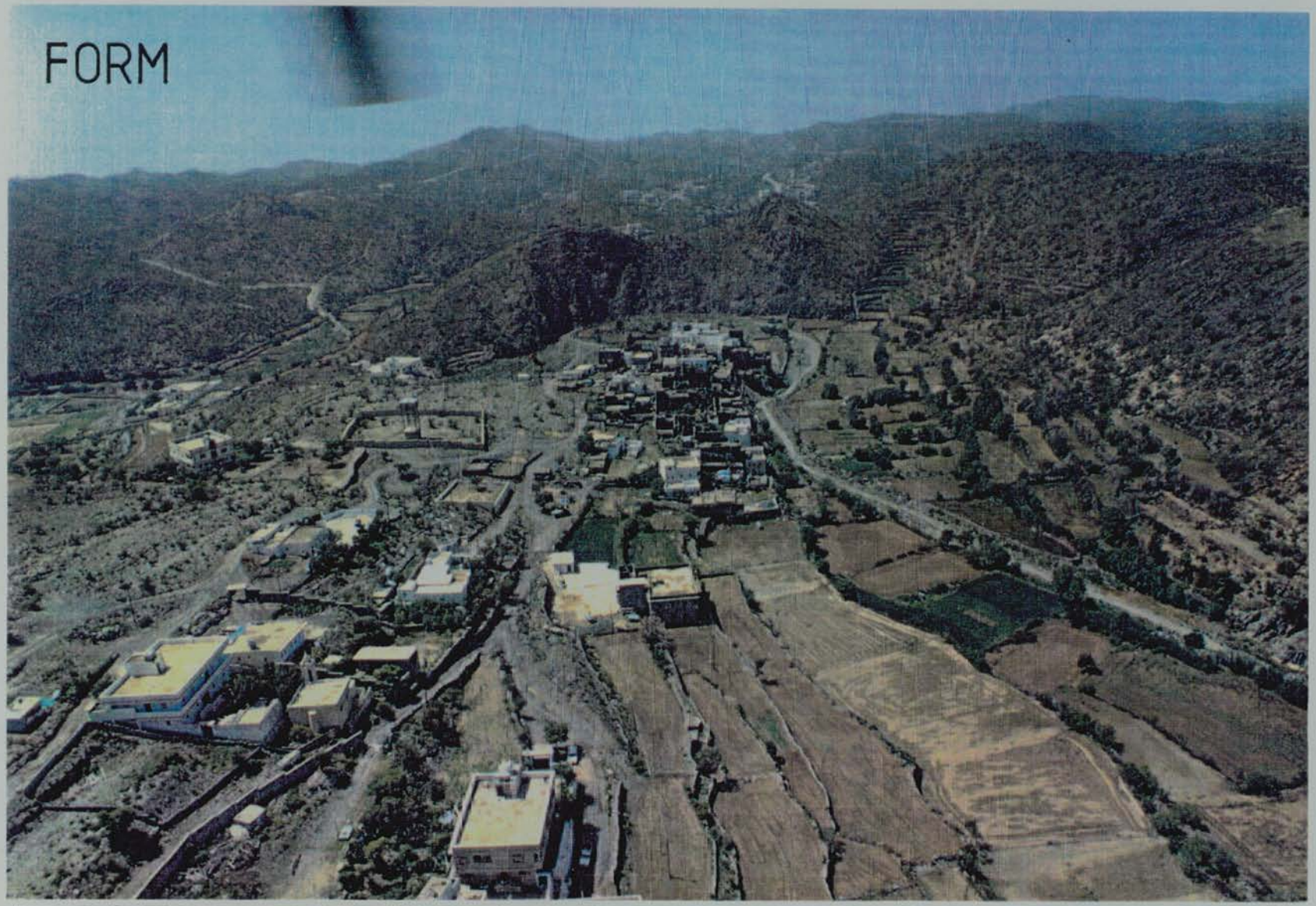
Texture: (See F **4.35** P **4**)

1- The texture of the site has been categorized into three main types as follow:

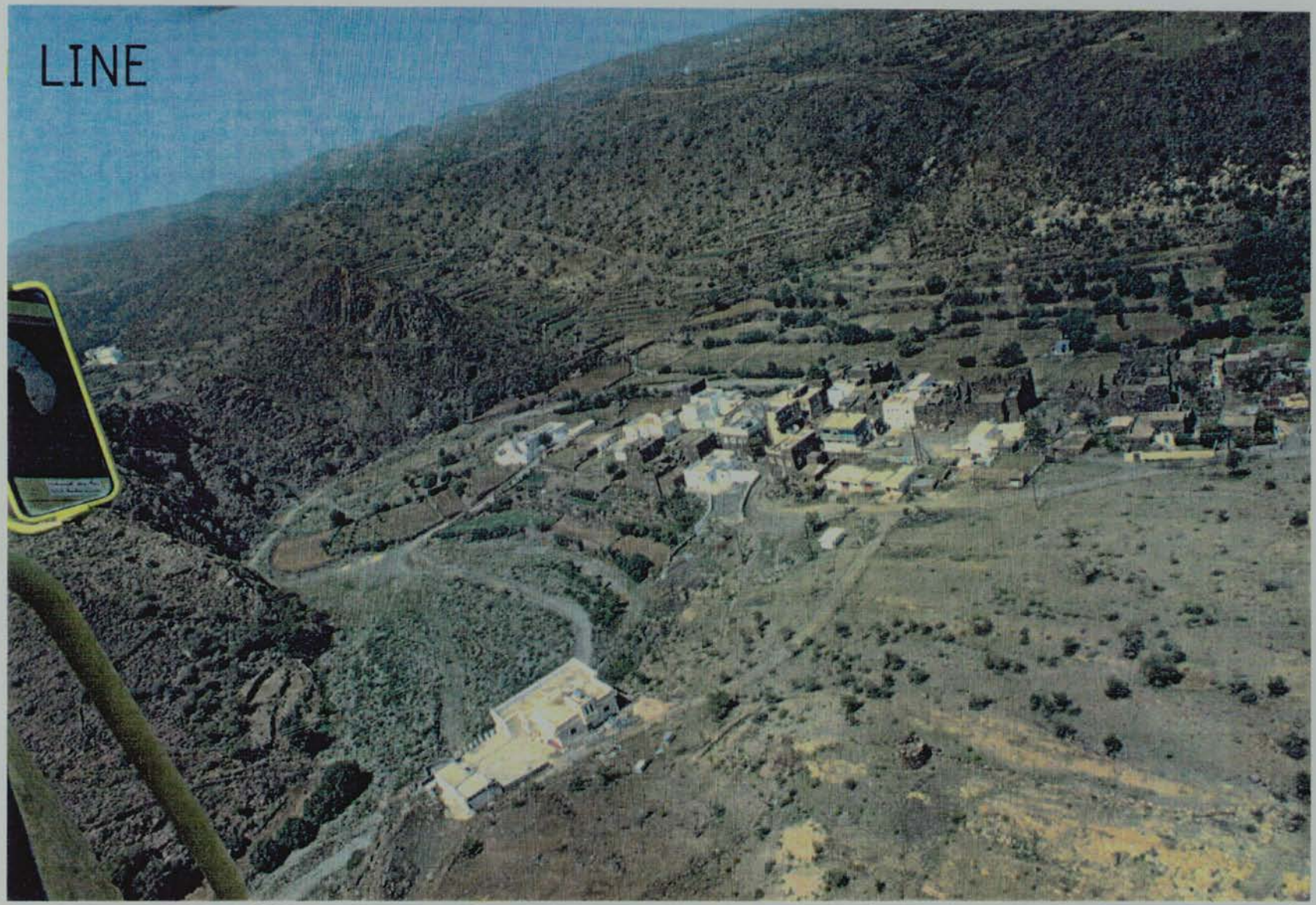
- **Hard:** represented by rocks, gravel and sand covering the main roads to the site.

- **Mixture of hard and soft:** represented by the planted and natural vegetation, and the buildings on the terrain.

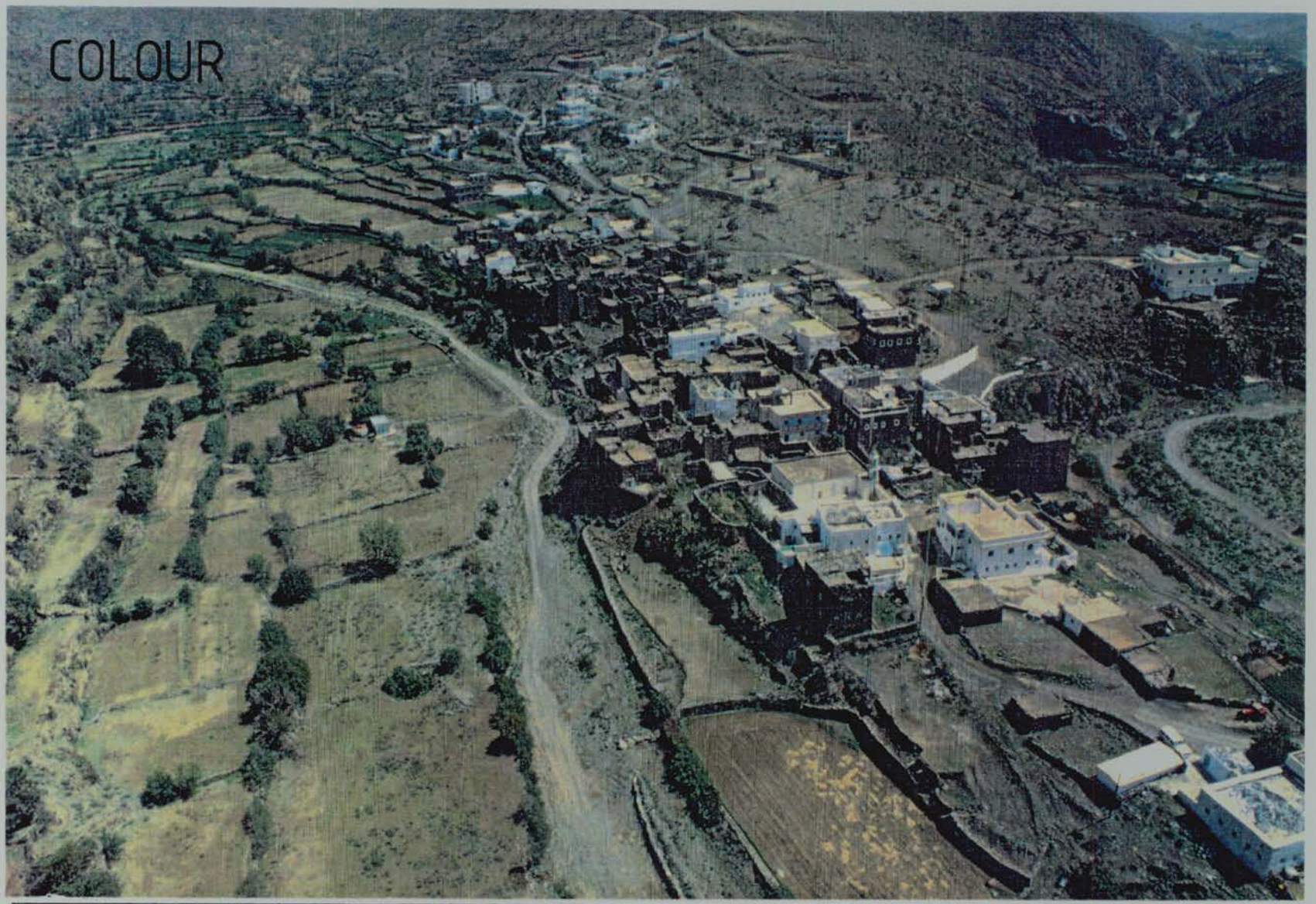
- **Soft**: represented by the smooth curvatures of the skyline of the site.



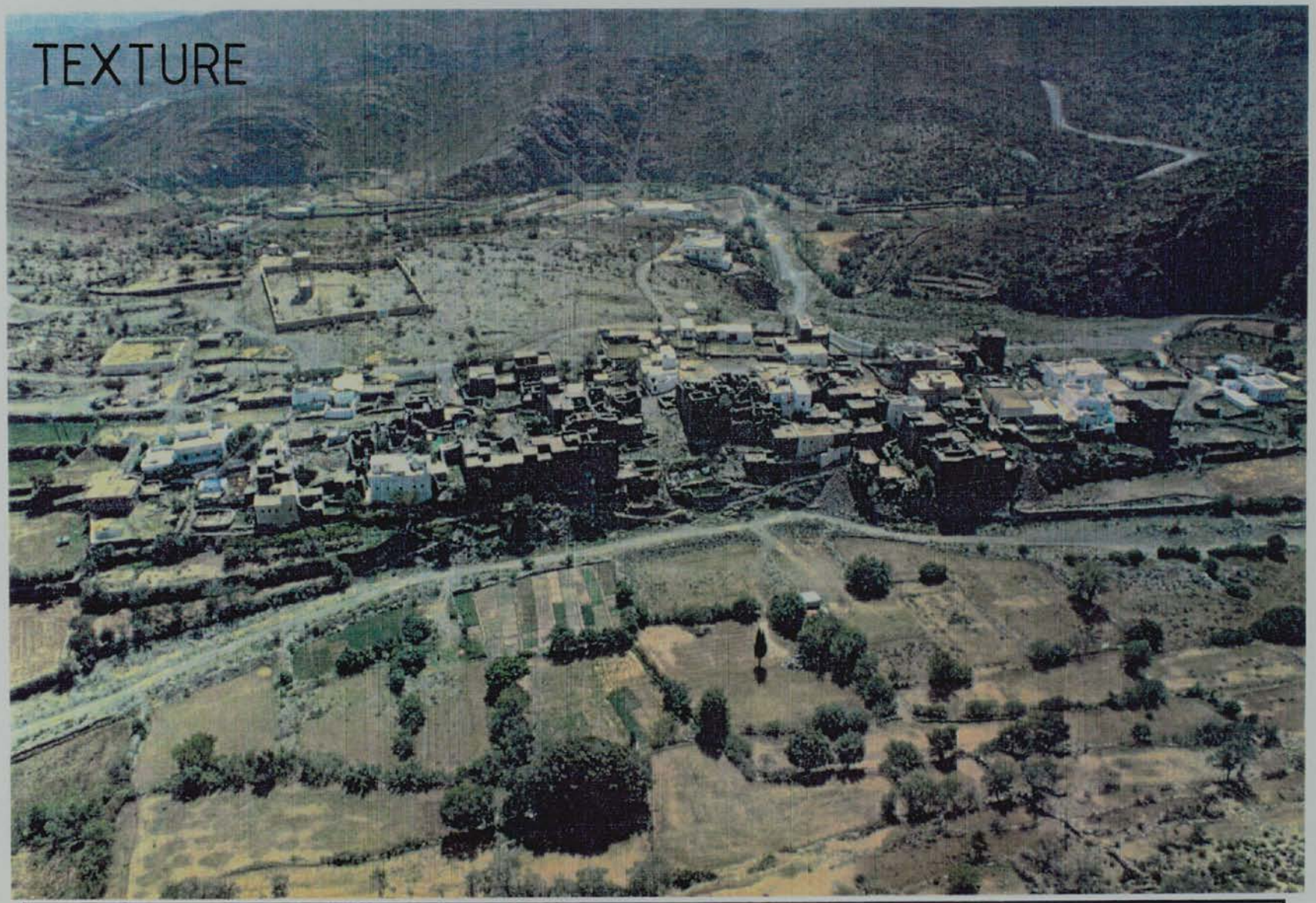
(Figure 4.32) Dominance Landscape Elements



(Figure 4.33) Dominance Landscape Elements



(Figure 4.34) Dominance Landscape Elements



(Figure 4.35) Dominance Landscape Elements

Dominance Principles

1- **Contrast:** (See F**4.36**D**1** F**4.30**P**1**)

Represented by the balance of texture and colour between the scattered white houses on top of the hill and the surrounding vegetation. This view is then visually surrounded by mountains.

2- **Axis:** (See F**4.36**D**2** F**4.30**P**4**)

This visual feature is represented by the depressed flat terrain running in the middle of the viewpoint. This gives the site an infinite continuity towards the mountains in the background of the view.

3- **Codominance:** (See F**4.36**D**3** F**4.30**P**2**)

At a different view point, the existence of the natural vegetation and the privately owned fruit gardens represent the two visually-dominant features.

4- **Sequence:** (See F**4.36**D**4** F**4.30**P**1**)

The shape and form of the linear growth of houses following the contour of flat developable land from the north side- and the expansion from the west and south leads the eyes from one stage to the other following this sequence of development

5- **Convergence:** (See F**4.36**D**5** F**4.30**P**2**)

Represented by the location of the mosque surrounded by clustered houses.

6- **Enframement:** (See F**4.36**D**6** F**4.30**P**1**)

The natural vegetation covering the three visible sides of the mountains of *Al-Ikas* area tends to frame the skyline of the viewpoint with clear edges.

Variable Factors

(See figure **4.37**)

1- Observation time: (none)

2- Scale: Intimate

3- Observation position: Aerial photographs

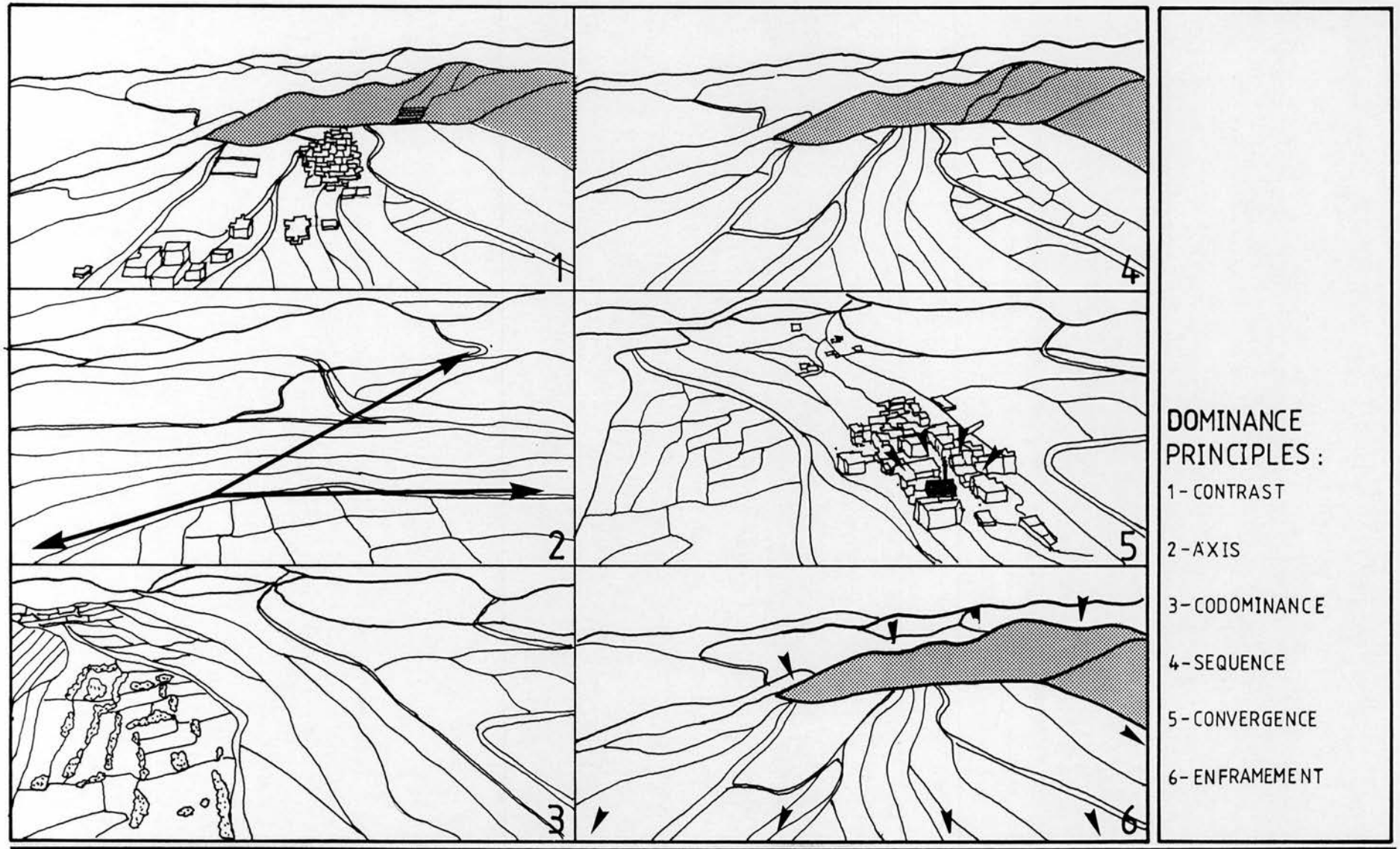
4- Distance: 12 Km from the city of Abha

5- Season: Summer

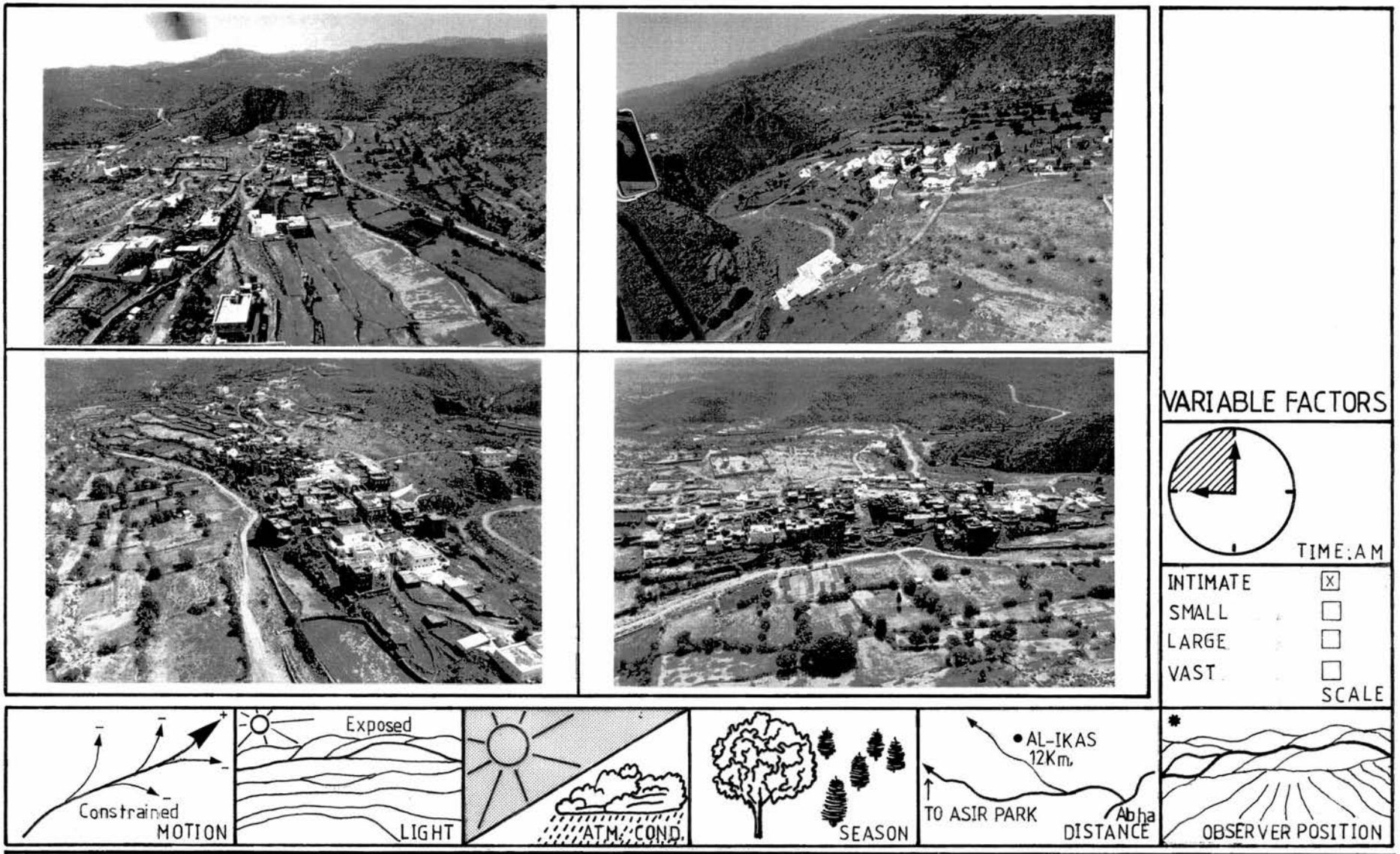
6- Atmospheric condition: Sunny morning and slight cloud in the afternoon

7- Light: Fully exposed

8- Motion: constrained



(Figure 4.36) Dominance Principles



(Figure 4.37) Variable Factors

Category No. 3: (Protected Areas)

Site No. 1: 'Asir National Parks (*AL-SOUDAH* Park= *lit.* The Black or Dark Green)

Physical Features Date of the field trip: 17-7-1990

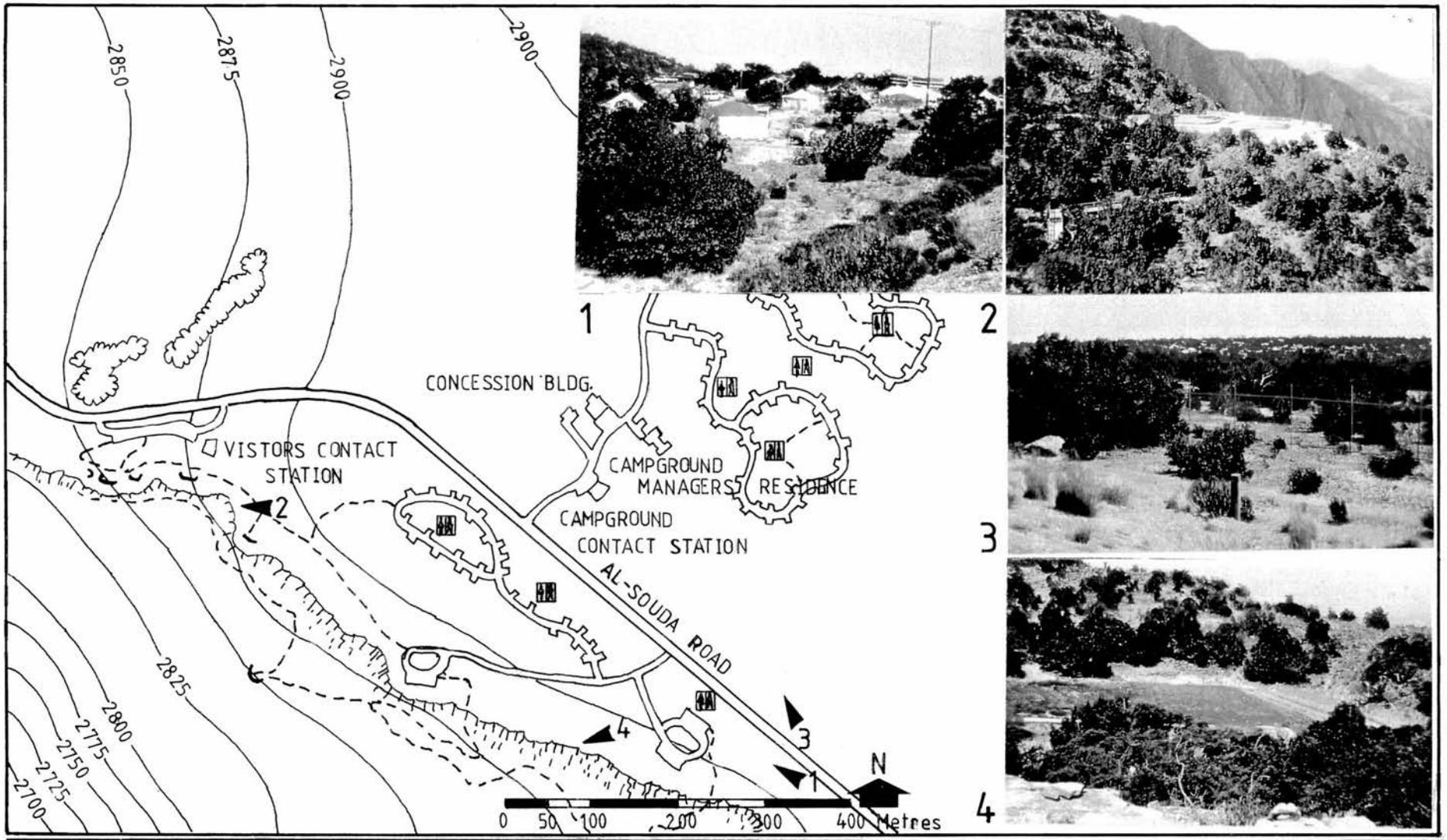
Al-Soudah Park represents the first comprehensive conservation programme in the 'Asir. It was initiated by the Ministry of Agricultural and Water sources to preserve the natural and built environment and to provide tourist attraction facilities for the whole Kingdom of Saudi Arabia. **Al-Soudah** park has an area of 883 hectares, situated about 25Km. to the north west of Abha, along the main road (As-Soudah Road), and to the higher level of the road where the park exists. It is located at the top of **al-Soudah** mountain, between 2900m. and 2700m. above sea level (figure **4.38**). This park has proved to be a national success providing camping, strolling and sight seeing facilities supported by the high location of the park (it is the highest point in the region).

The natural vegetation, which covers much of the site is 95% ***Al 'ar-'ar*** juniper trees, as seen in figure **4.38** pictures **1** and **2**. It is also characterized by the massive scale of the mountain chains that constitute the site and surround it (figure **4.39** pictures **6**, **7**, and **9**). One of the goals that has been considered in the construction plan of the park is the utilization of natural local materials to enhance and ensure the original features of the site in general. The local building style is incorporated into the newly developed facilities like the park commission buildings, concession building, camp-ground manager's residence, camp-ground contact station, and other utilities.

Socio-Cultural Characteristics

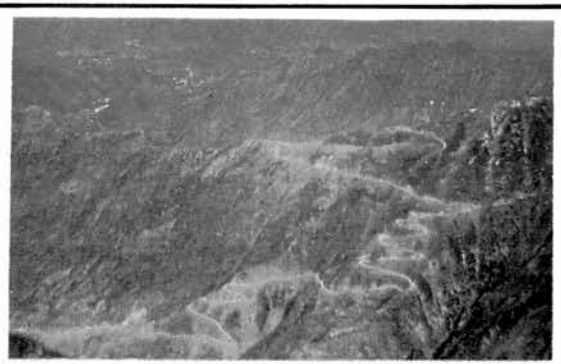
Because the park was planned to provide for camping and other leisure facilities for families, gender separation for privacy protection became one of the vital goals for the success of the project. Especially in this part of Arabia, which is socially-conservative in nature, each corner of the part had to be visually screened, physically and naturally, without preventing visual access to the attraction sites and observation decks. Accordingly, ***al-Soudah*** park is divided to two sections: a family section which is located on the eastern side of the park close to *al-Soudah* Road (picture 3), and the section assigned to individuals (mainly unmarried men) on the other side of the road (picture 1). This division aimed at reassurance of privacy enhancement for the visitors of the park.

The second major goal of the park commission was to protect the natural areas of the park from any misuse of facilities or damage of rare plant species by the large number of visitors who visit the park on a daily basis. This also included the wildlife which includes baboons on the steep slopes of the mountains and different species of birds which chose their habitations in close proximity to heavily used areas (the prevention and control of feeding of these animals is also a concern for the commission).



(Figure 4.38) Site Plan of Al-Soudah Park

Main access 5



Winding road to the Tihama 6

Communities of the Low-Land 7

Noon time fog 8

View from Observation Dick 9

Natural Topography 10

(Figure 4.39) Aspects of the Site (Al-Soudah Park)

Dominant Landscape Elements

Form: (See F **4.40** P **1**)

1- Overall form covered by masses of natural vegetation.

2- Skyline dominated by the height of the mountains, projecting buildings and camping tents on the slopes.

3- High percentage of open land for camping.

4- Undulating surface manipulating the view.

Line: (See F **4.41** P **2**)

1- Curvatures dominate the view represented by the mountain slopes and pathways.

2- Narrow and paved paths represent a continuous curved line cutting the site from a number of direction.

3- Hard lines are represented by large masses of rocks and buildings.

Colour: (See F **4.42** P **3**)

1- The natural colour of the vegetation and the mountains are dominant, mixed with colourful spots represented by buildings and tents.

2- Hierarchy of types of natural vegetation (i.e., grass, shrubs, trees) cover most of the site.

3- The edge of the mountains covered with natural vegetation defines the edge of the site and stresses the overall monotonous green aspect of the site.

4- Variation of the greenish tone of the site is represented by the natural vegetation on the site.

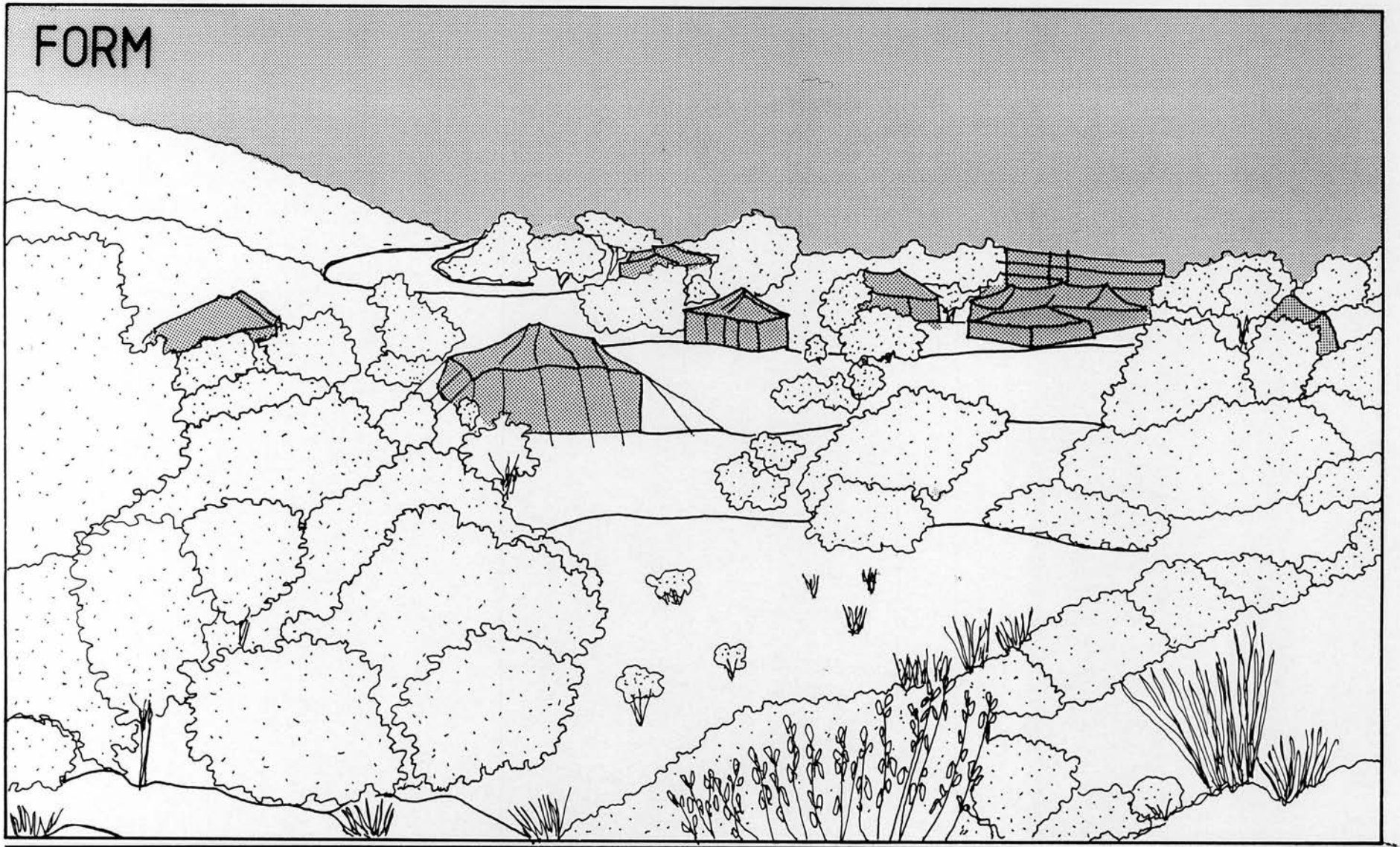
Texture: (See F **4.43** P **4**)

1- The texture of the site has been categorized into three main types as follow:

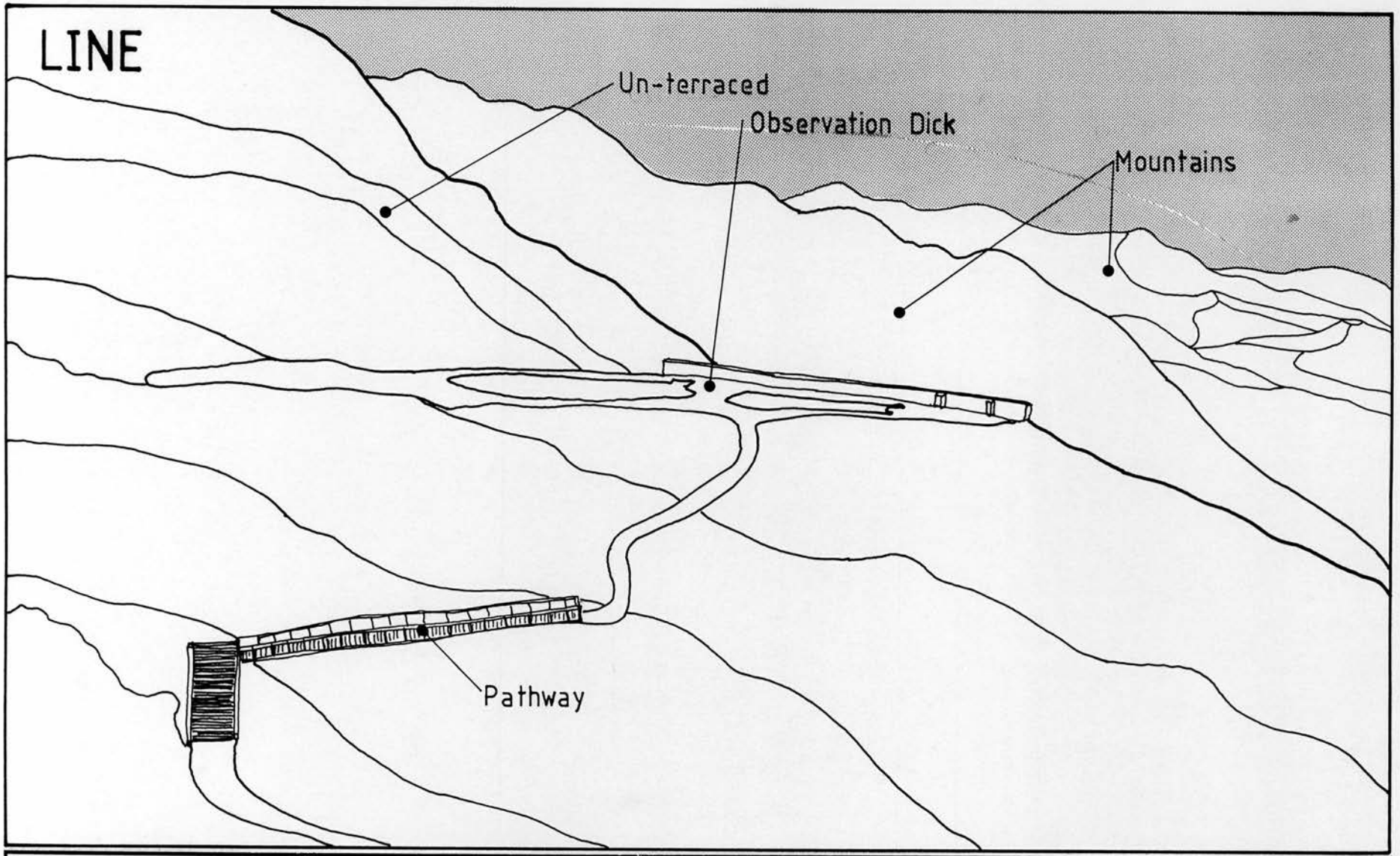
- **Hard:** represented by rocks and gravel scattered on site.

- **Mixture of hard and soft:** represented by the natural vegetation, and the building materials used on the site.

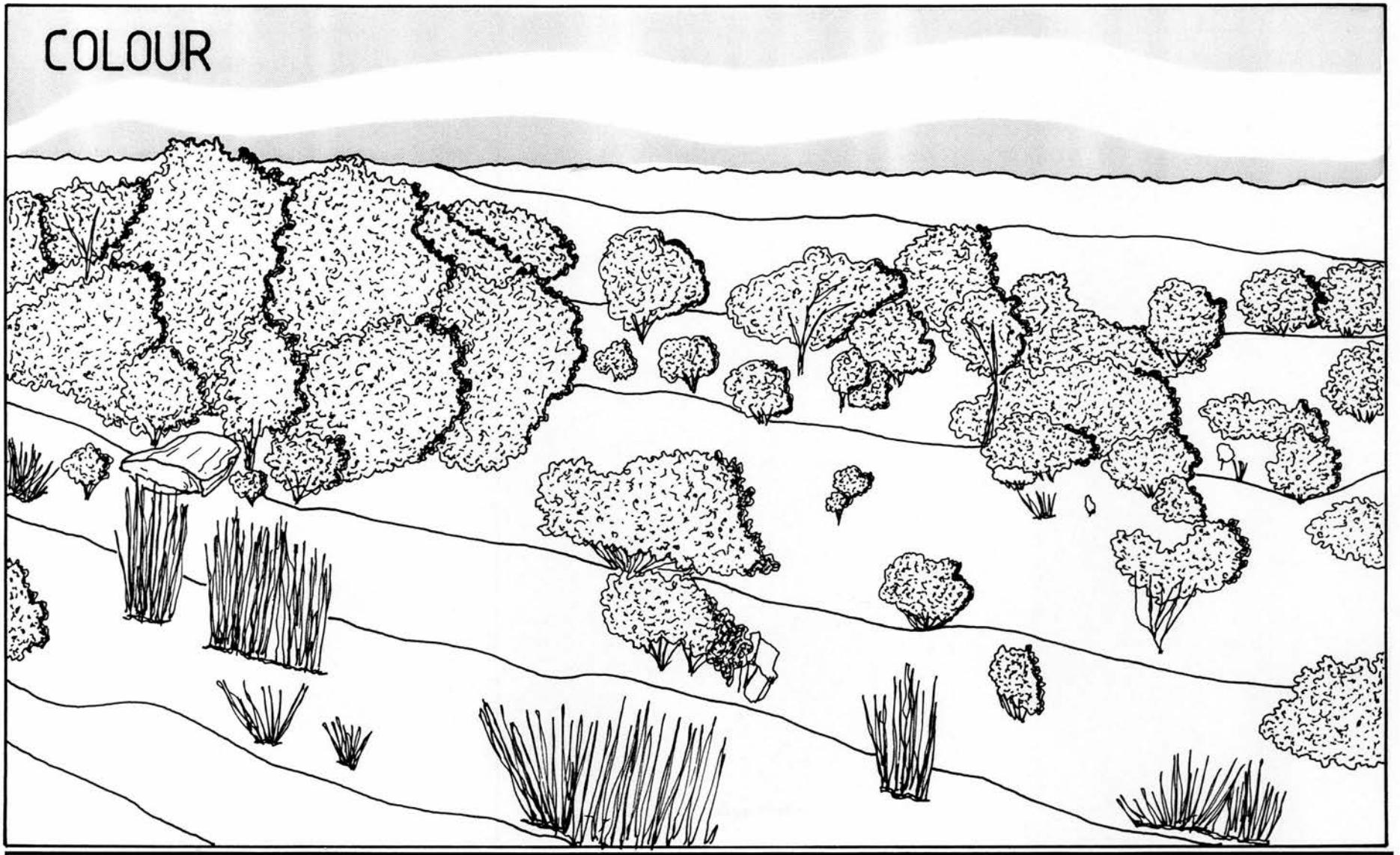
- **Soft**: represented by the skyline of the site.



(Figure 4.40) Dominance Landscape Elements



(Figure 4.41) Dominance Landscape Elements



(Figure 4.42) Dominance Landscape Elements

(Figure 4.43) Dominance Landscape Elements

Dominance Principles

1- **Contrast:** (See F**4.44**D**1** F**4.38**P**1**)

The natural vegetation and the vast openness of the land tends to dominate the viewpoint. It is further supported by the balance between the natural and built environments.

2- **Axis:** (See F**4.44**D**2** F**4.38**P**1**)

Masses of vegetation cutting the view from west to east represent a clear division of land and an apparent axis.

3- **Codominance:** (See F**4.44**D**3** F**4.38**P**3**)

At another view point, the natural vegetation covering most of the site and the height of the surrounding mountains represents two visually dominant features.

4- **Sequence:** (See F**4.44**D**4** F**4.38**P**3**)

The continuity of land gradually directs the eyes to the higher land levels depending on the view point which gives the feeling of decreasing. This produces a smooth sequence of visual elements directing the eye to the mountain chain on the far edge of the site.

5- **Convergence:** (See F**4.44**D**5** F**4.38**P**2**)

Represented by a visible observation deck, stopping the continuity of the mountain slope, supported by a winding pathway towards the deck, all of which create an unmistakable focal point.

6- **Enframement:** (See F**4.44**D**6** F**4.38**P**2**)

From the same viewpoint, the slope of the mountain and the variations of colour, texture and line, create an edge that, in turn, produces a hard line and a distinctive frame of the view.

Variable Factors

(See figure **4.45**)

1- Observation time: 10 am.

2- Scale: Vast

3- Observation position:

- High point = Road level = 2900 m above sea level
- Mid-point = Terrace level = 2875 m ASL
- Low-point = Artificial level = 2850 m ASL

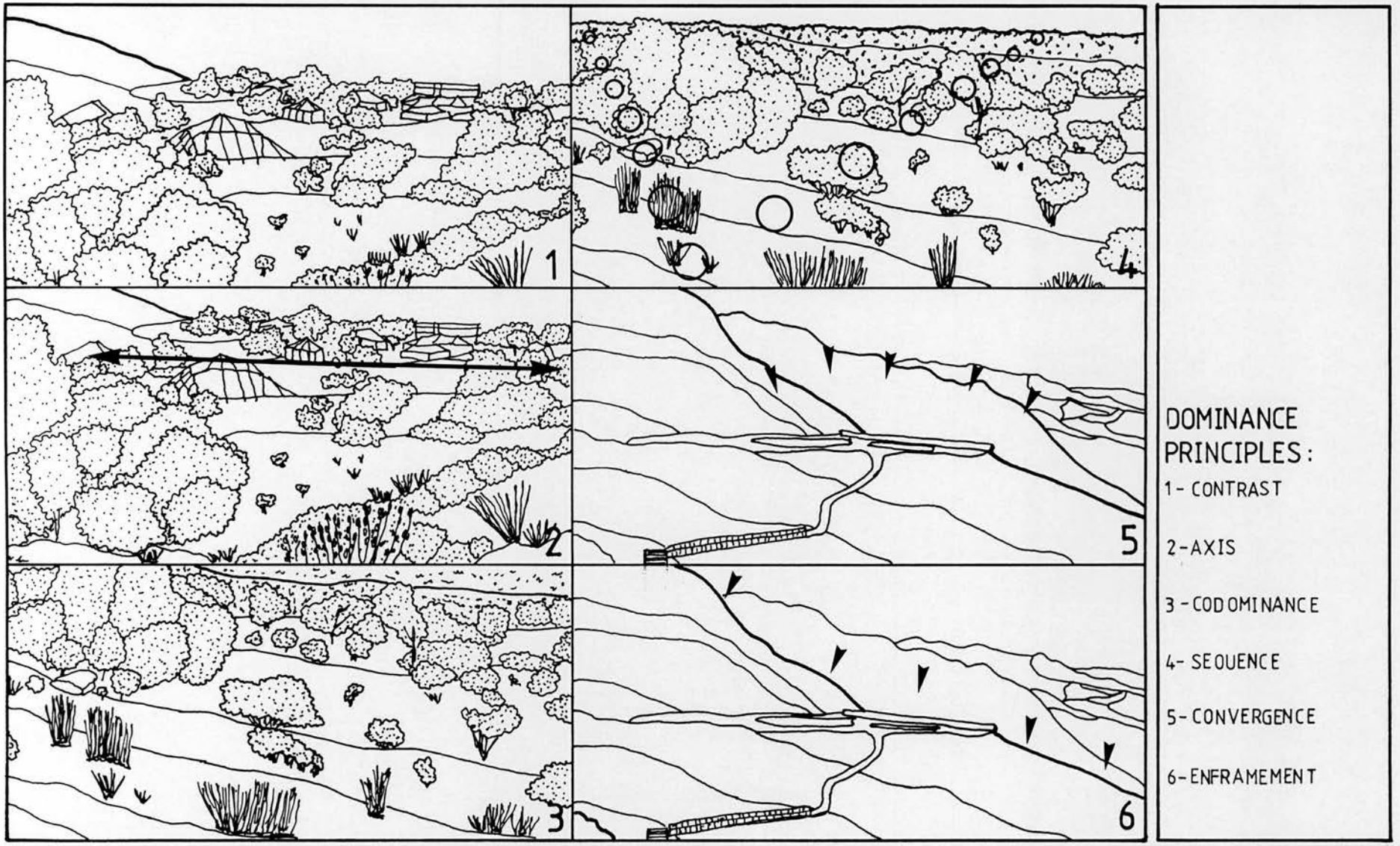
4- Distance: 25 Km from Abha city

5- Season: Summer

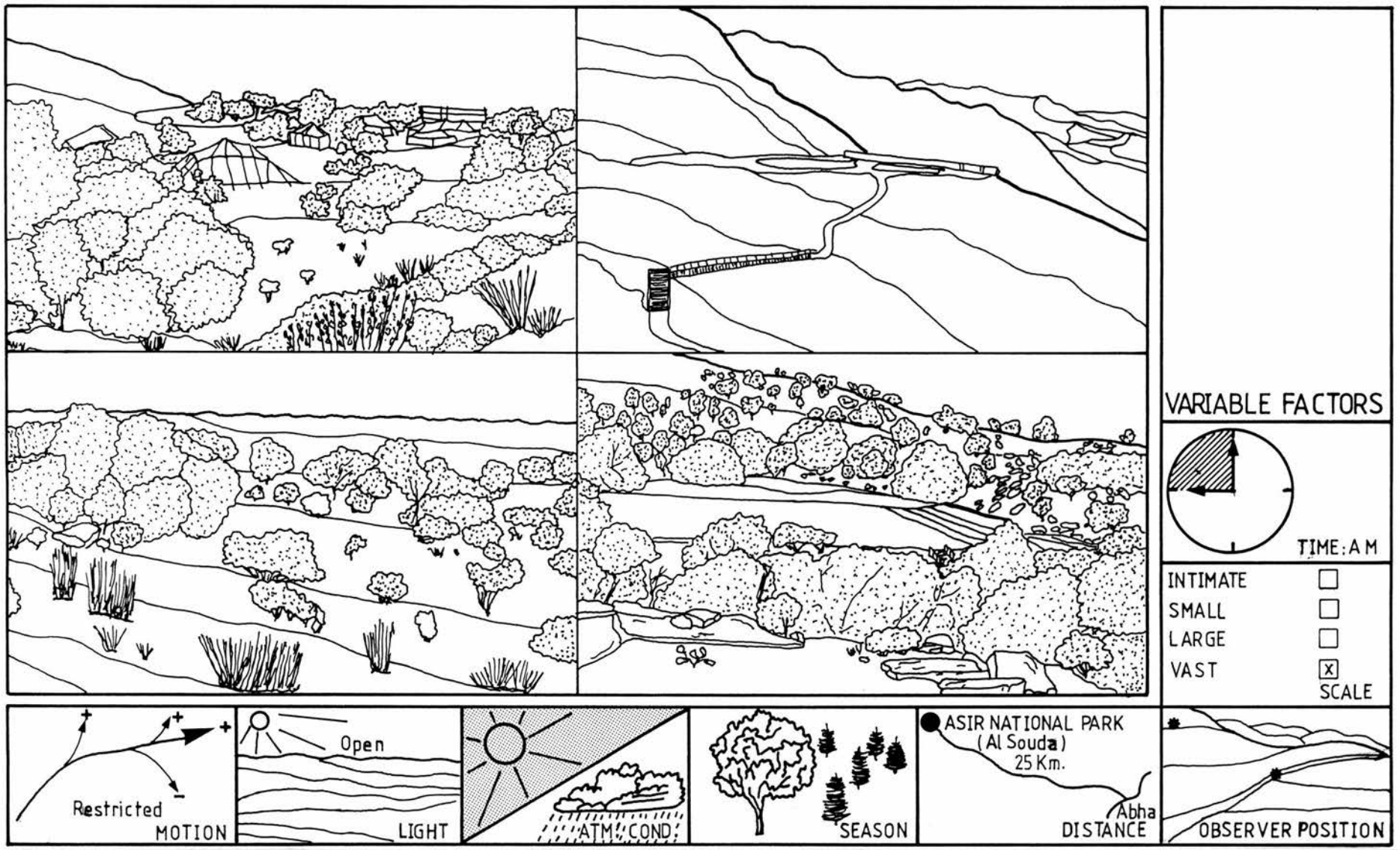
6- Atmospheric condition: Sunny morning and cloudy afternoon

7- Light: Fully open

8- Motion: Partially constrained



(Figure 4.44) Dominance Principles



(Figure 4.45) Variable Factors

Category No. 3: (Protected Areas)

Site No. 2: 'Asir National Parks (*AL- QAR'AA* PARK)

Physical Features Date of the field trip: 18-7-1990

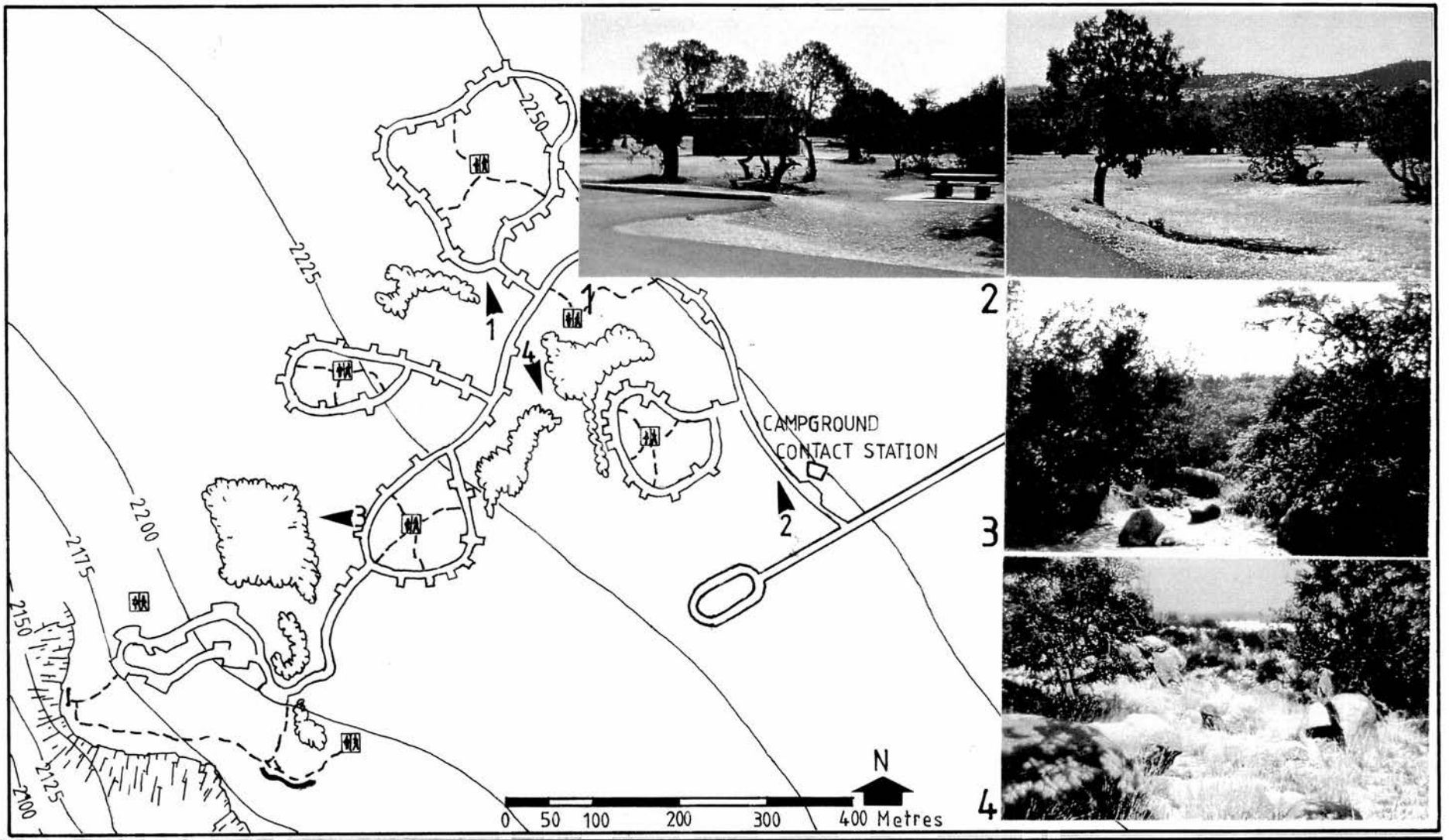
Al-Qar'aa park is another conservation project that has been initiated by the Ministry of Agricultural and Water sources to protect the natural and built environment in the region of 'Asir, and to provide recreation facilities for the benefit of the whole Kingdom of Saudi Arabia. This park is built on the southern side of Abha (to the south east) at a distance of 30Km., along ***al-Qar'aa*** road. It occupies an area of 420 hectares of almost totally flat land (figure **4.46**). The site is located between 2275m. and 2100m. above sea level facing the Tihama region of 'Asir. Once again the notion of protecting the natural environment and the cultural heritage of this region proved to be a great success and a popular resort. This fact is encouraging the Ministry to further develop and protect more sites in the future development plans of 'Asir.

The natural vegetation of **al-Qar'aa** park is very dense, comprising mainly of 95% of juniper trees (***'ar-'ar***) which tends to dominate the view (figure **4.46** pictures **1**, **2**, **3**, and **4**). Because the location of the park on a level of 2275m. ASL, which gradually extends to the lower level of 2100m. ASL, mountains tends to disappear from the view, except that of ***al-Soudah*** mountains.

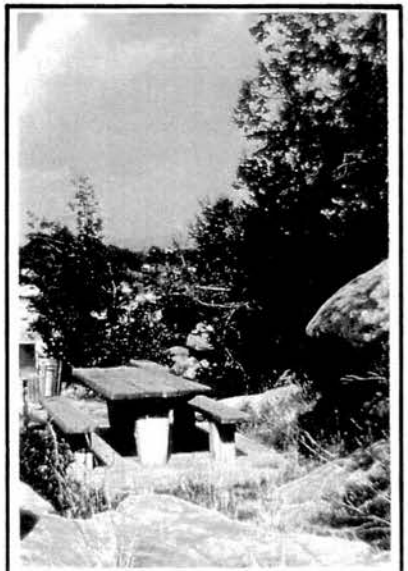
The Ministry's concept for the design of the park emphasized the use of local materials in the construction as well as for the overall scheme of building styles as a further enhancement of natural and socio-cultural preservation. Like the previous national park (**al-Soudah**), **al-Qar'aa** national park is equipped with all necessary recreation facilities and administration buildings (figure **4.47**).

Socio-Cultural Characteristics

One of the observed disadvantages of **al-Qar'aa** park is its flatness and lack of attractive scenery if compared with Al-soudah park for example. This observation was further confirmed by the visitors' preference to spend most of their spare time in *al-Soudah* park (appealing climatic conditions were included in the list of preferences communicated to the observer by some of *Al-Soudah* park's visitors). On the other hand, visitors' opinions indicated that the seclusion of the family section are better in **al-Qar'aa** park when compared with that of **al-Soudah** national park.



(Figure 4.46) Site Plan of Al-Qar'aa Park



Park facilities 5

Secluded family section 6

Access to Park 7

Site Entrance 8

(Figure 4.47) Aspects of the Site (Al-Qar'aa Park)

Dominance Landscape Elements

Form: (See F **4.48** P **1**)

1- Overall form dominated by interesting species of trees and other elements of natural vegetation.

2- Skyline dominated by the masses of large trees and the profile of elements of natural vegetation.

3- Absence of background mountains is a distinctive character of this park.

4- The visible facilities and other utilities which are provided by the Ministry, like seats, buildings, sheds and green houses tends to manipulate the view from different points.

Line: (See F **4.49** P **2**)

1- Smooth surfaces dominates the site's visual characteristics.

2- Simple and clear skylines define and emphasize the simple movements of lines from a number of viewpoints.

3- Hard-lines are represented by the smooth curves of the paved road leading to the site.

Colour: (See F **4.50** P **3**)

1- The natural colour of the natural vegetation is dominant.

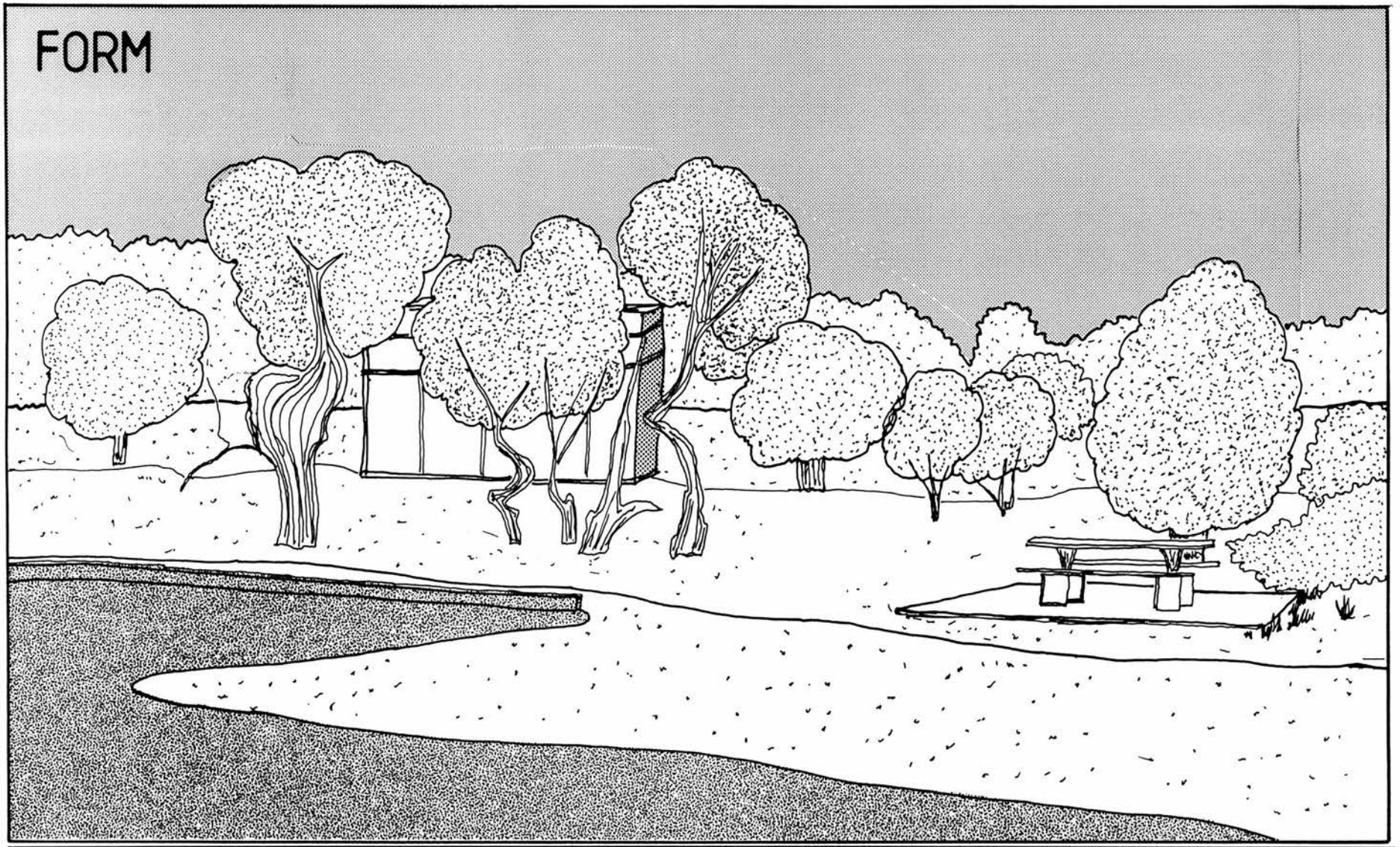
2- Large masses of the vegetation and large trees provide for a wide spectrum of colour variations.

3- Variation of the greenish tone of the site is represented by the wide variety of natural vegetation.

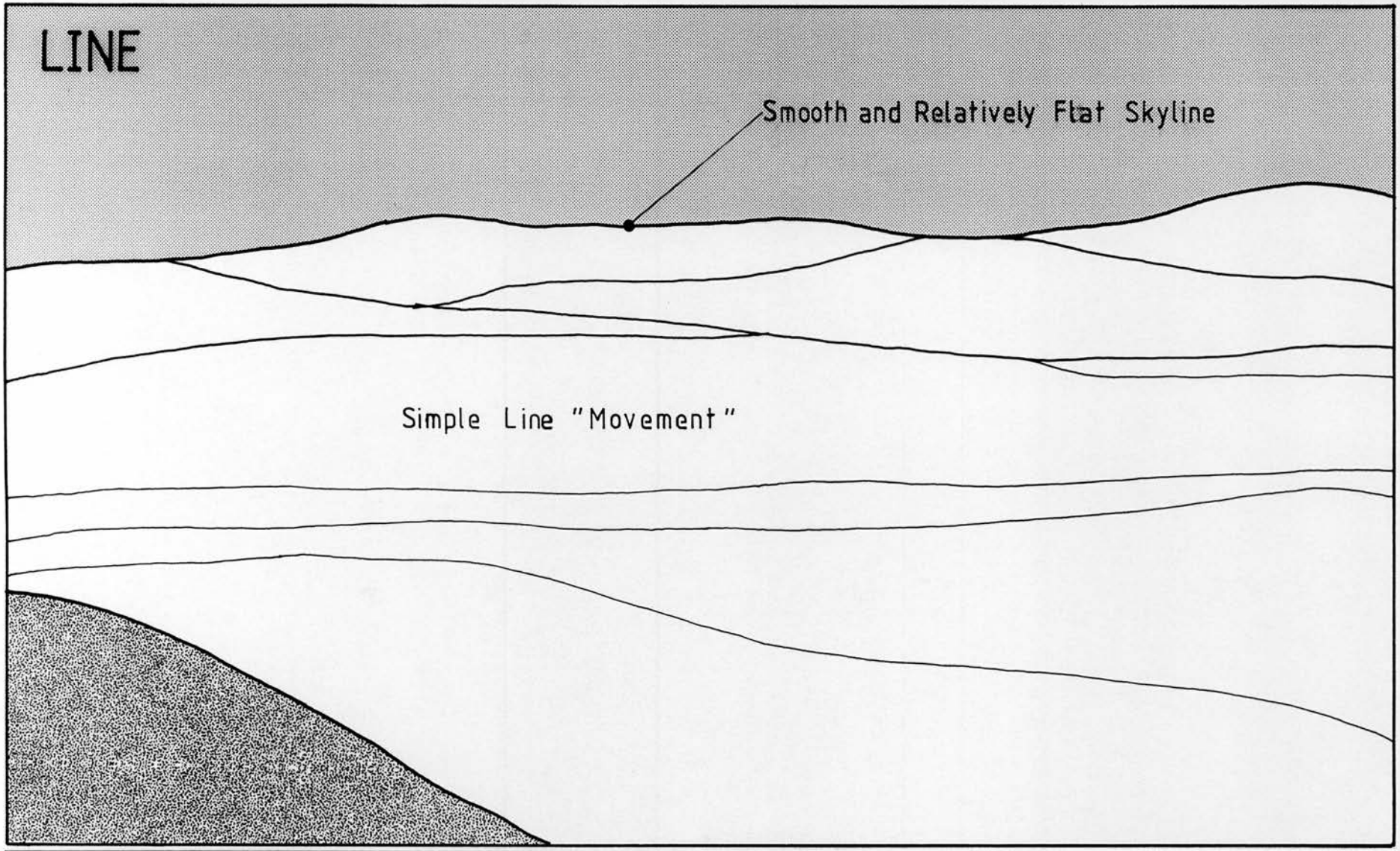
Texture: (See F **4.51** P **4**)

1- The texture of the site has been categorized into three main types as follow:

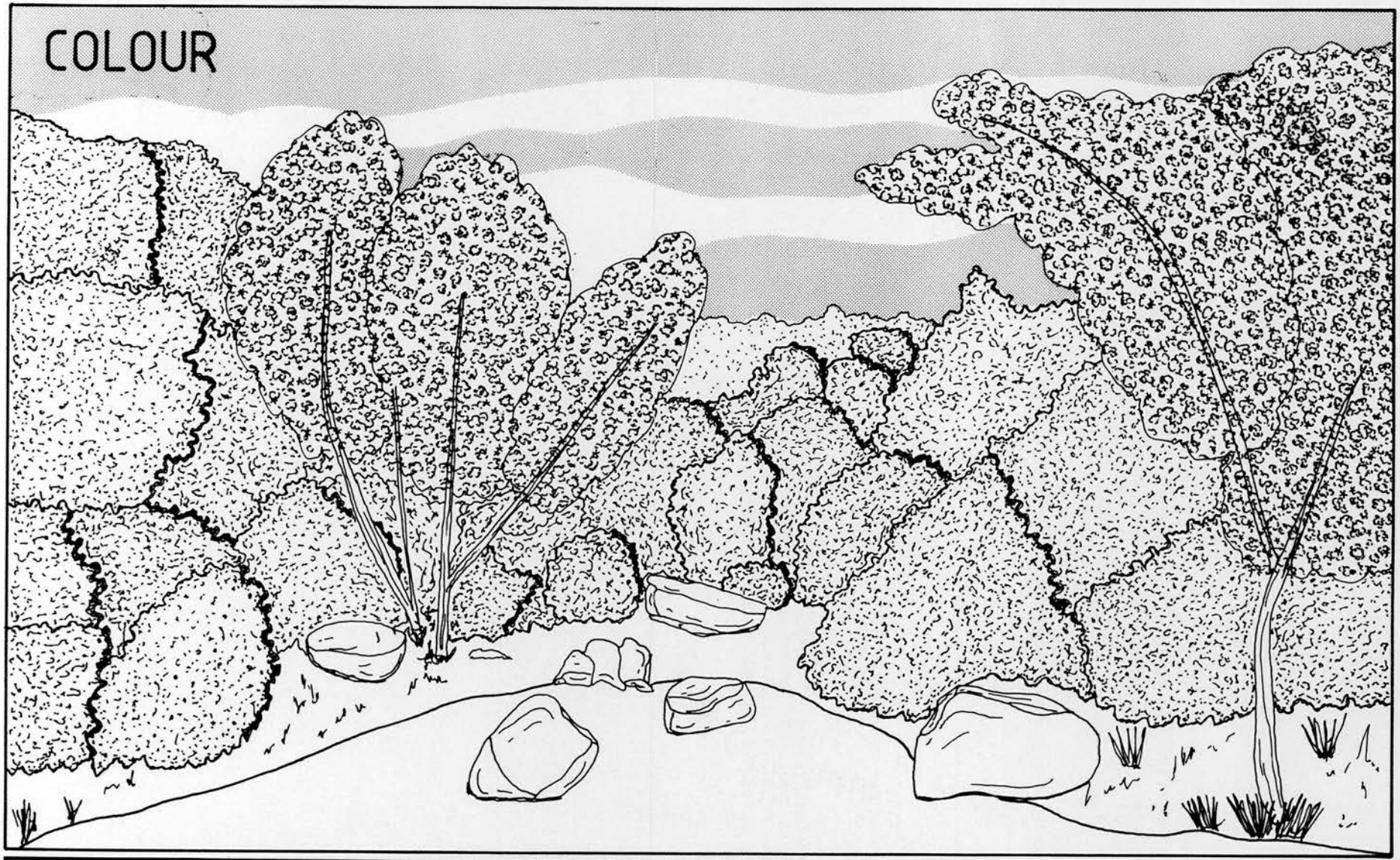
- **Hard:** represented by hard landscape elements used by the park's authorities, rocks, gravel, and sand covering the site.
- **Mixture of hard and soft:** represented by the natural vegetation, building materials, and the hard surfaces of roads.
- **Soft**: represented by the skyline of the site.



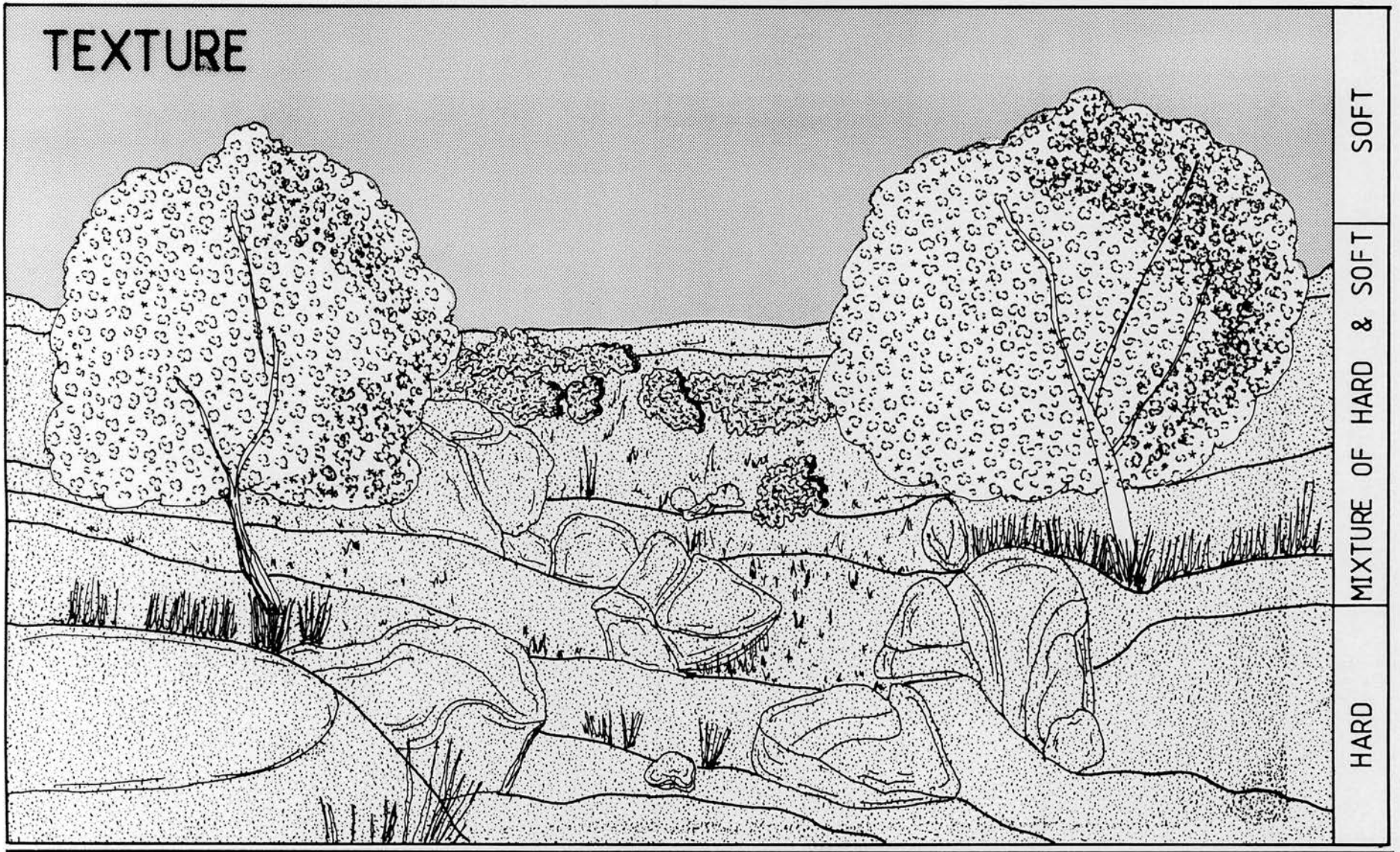
(Figure 4.48) Dominance Landscape Elements



(Figure 4.49) Dominance Landscape Elements



(Figure 4.50) Dominance Landscape Elements



(Figure 4.51) Dominance Landscape Elements

Dominance Principles

1- **Contrast:** (See F**4.52**D**1** F**4.46**P**4**)

A clear view of the site is represented by the simplicity of lines, scattered rocks, and the natural vegetation.

2- **Axis:** (See F**4.52**D**2** F**4.46**P**1**)

This visual feature is represented by the flatness of the land giving an obstruction-free view in most directions.

3- **Codominance:** (See F**4.52**D**3** F**4.46**P**3**)

At a different view point, the density of areas covered with natural vegetation tends to visually dominate the view.

4- **Sequence:** (See F**4.52**D**4** F**4.46**P**4**)

The continuity of the natural vegetation, gaining a massive size towards the high land is directing the eye to the skyline but this is always blocked with large trees towards the far edge of the site.

5- **Convergence:** (See F**4.52**D**5** F**4.46**P**3**)

Large masses of natural vegetation form the skyline of the viewpoint and tend to enclose most views of the site.

6- **Enframement:** (See F**4.52**D**6** F**4.46**P**2**)

According to the previous points, it appears clear that any view point is likely to be enframed with either a smooth skyline or a rugged line represented by the profile of large trees especially towards the higher land.

Variable Factors

(See figure **4.53**)

1- Observation time: 10 am.

2- Scale: Intimate

3- Observation position:

- High point = Road level = 2275 m above sea level
- Mid-point = pedestrian level = 2200 m ASL
- Low-point = terrace level = 2125 m ASL

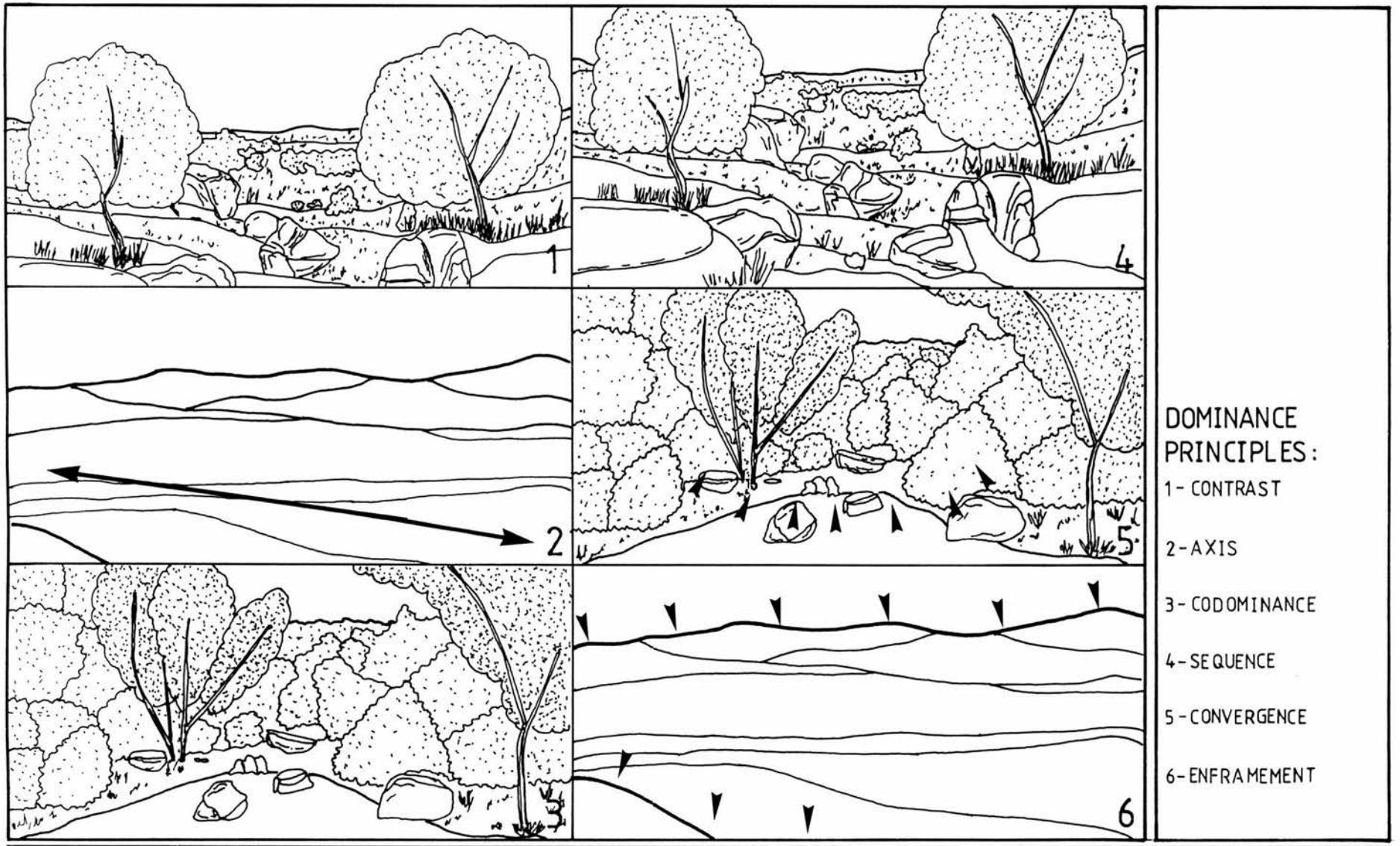
4- Distance: 30 Km from Abha city

5- Season: Summer

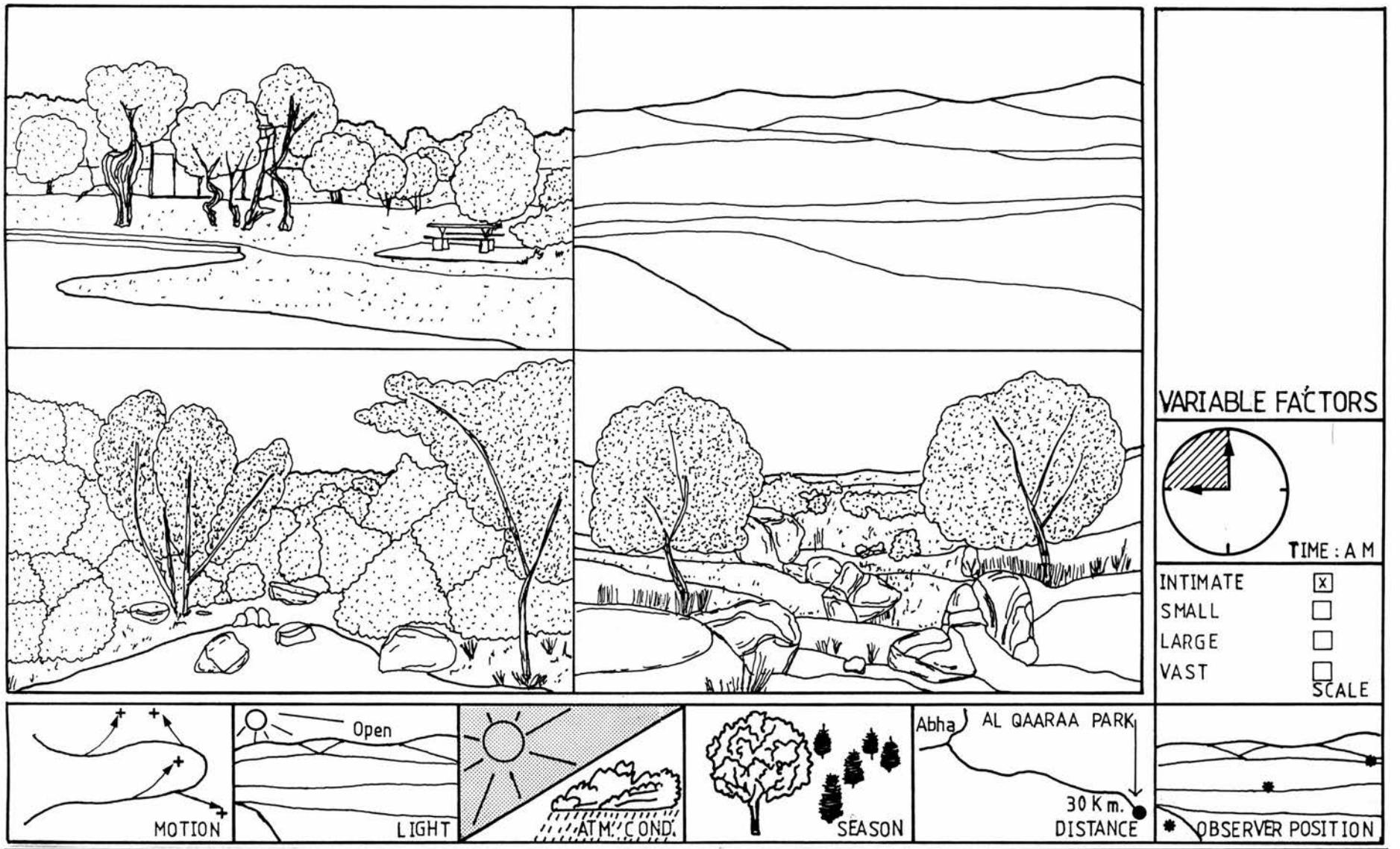
6- Atmospheric condition: Sunny mornings and cloudy afternoons

7- Light: fully open

8- Motion: Partially constrained



(Figure 4.52) Dominance Principles



(Figure 4.53) Variable Factors

Conclusion:

It appears that **al-Suq** area is a naturally and culturally significant site. This area still maintains a traditional lifestyle where the mosque is the focal point and the centre of community gathering. There, the leader (***sheikh al-qabilah***) of the village meets the member of his community on a daily basis to discuss the daily affairs of the community and decide future action. This process may by-pass any governmental authority when it comes to crime, for example, or any local disputes.

The new unplanned developments that were introduced to the area in the late parts of 1989, encouraged by the Bank of Real Estate Development, resulted in a scattered layout of the community. This in turn reduced the role of the mosque as the focal and gathering point of the locals as well as minimizing the social activities amongst the community members. Improvement and development were not synonymous with life enhancement (e.g., irrigation systems, fences, pathway, and suitable building materials).

Maqhab , as a developed area is similar in significance to that of the Al-Suq area in terms of their richness of cultural heritage and natural environment which are still relatively unaffected by the rapid haphazard development suffered by the rest of the region. Any attempt to divert the local economy of these two areas from the traditional agricultural-dependent mode of livelihood is likely to destroy the cultural authenticity of the region. This mode of lifestyle is responsible for the continuity of the sites as significant cultural representatives of the region. Unlike Abha and Khamis Mushayt which are the major cities, these two sites are still deeply rooted in the natural and socio-cultural context in which they first were born and grew to their present status.

Adadah, on the other hand is suffering from a rapid unplanned development which is leading to the disappearance of the traditional lifestyle and the emergence of a

"non-vernacular" mode of behaviour. This, in turn, is effecting all aspects of life in the village from the traditional mode of economic dependence to the architectural styles of new buildings which do not seem to belong to any particular locale. The fact that the village is not suitable for the development of any tourist facilities is helping to slow the rapid process of change suffered by the other regions of 'Asir.

The richness of the natural environment of the area is also being threatened by the abandonment by the youth of the village of their forefathers heritage, which is traded for a stable governmental job in one of the larger surrounding towns. The revitalization of this village, however, seems to lie in the attempt of the government to encourage the production of vegetables and livestock and the provision of subsidies for labourers from the rest of the Arab world or the surrounding villages of 'Asir.

Al-'Ikas has recently benefited from governmental concern for its future as a self-supporting village. The low land surrounding this village is very fertile and represents a great potential for any agricultural projects that could provide stable employment for the residents of *Al-Ikas* as well as the surrounding villages. However, the result of the comprehensive study conducted by the municipality of Abha have not been published.

The national park of 'Asir or **al-Soudah** provides a good example of a recent governmental programme to protect potential sites by creating opportunities for continuity and preservation of the natural and cultural environments of 'Asir region. The idea of a national park was unheard of in the kingdom until the Ministry of Agriculture and Water initiated and supported the project. It proved to be a success which will lead to the development of further sites. The revenues generated from the tourist business are providing a self-supported ***mahmiyyah*** (protected land) which are leading to the establishment of governmental agencies that will be responsible for future projects. An example of such agencies is The Meteorology and Environmental

Protection Administration of the Kingdom of Saudi Arabia (with the cooperation of the International Union for Conservation of Nature and Natural Resources IUCN), and the Royal Commission for the Conservation and Protection of the environment. It is also hoped that this trend will extend to include other potential sites in different regions of the Kingdom, each depending on its particular significance (i.e., traditional houses, historically significant sites).

Al-Qar'aa park is another conservation project that has been initiated by the Ministry of Agricultural and Water sources to protect the natural and built environment in the 'Asir region, and to provide recreation facilities for the benefit of the whole Kingdom of Saudi Arabia. Once again the notion of protecting the natural environment and the cultural heritage of this region has proved to be a great success. This fact is encouraging the Ministry to develop and protect more sites in the future development plans of 'Asir.

However, the previously expressed concern regarding the observed disadvantages of **Al-Qar'aa** park (its lack of attractive scenery if compared with *Al-soudah* park) will have to be worked out so as to provide for a substitute that will lead visitors to choose this park for recreation purposes.

Finally, it can be concluded that each of these sites has a certain character that can be utilized for its own protection and continuity with due regard for the cultural significance of these characteristic. In other words, an unplanned development is needless if it is going to destroy the very reason for such development, that is the conservation of the historical and cultural heritages, the conservation of the natural and built environments, the well being of the inhabitants and the preservation of the identity of the whole nation.

The following chapter is intended to follow the sequence of the modified Melnick cultural landscape assessment model and describes the logical sequence of obtaining the four basic data sets for cultural landscape assessment. It also proposes a number of general and specific management and preservation guidelines for al-Suq as a potential cultural landscape.

[1] Most, if not all the villages of the 'Asir region are characterised by their inhabitants' reservation towards the site of an outsider within their villages. This would have prevented the author from gaining accessibility to these villages, let alone the ability to gain further insights into local social structures and other socio-cultural aspects of such landscapes.

CHAPTER V

APPLICATION OF THE PROPOSED ASSESSMENT MODEL

Case Study: Al-Suq Village

Introduction:

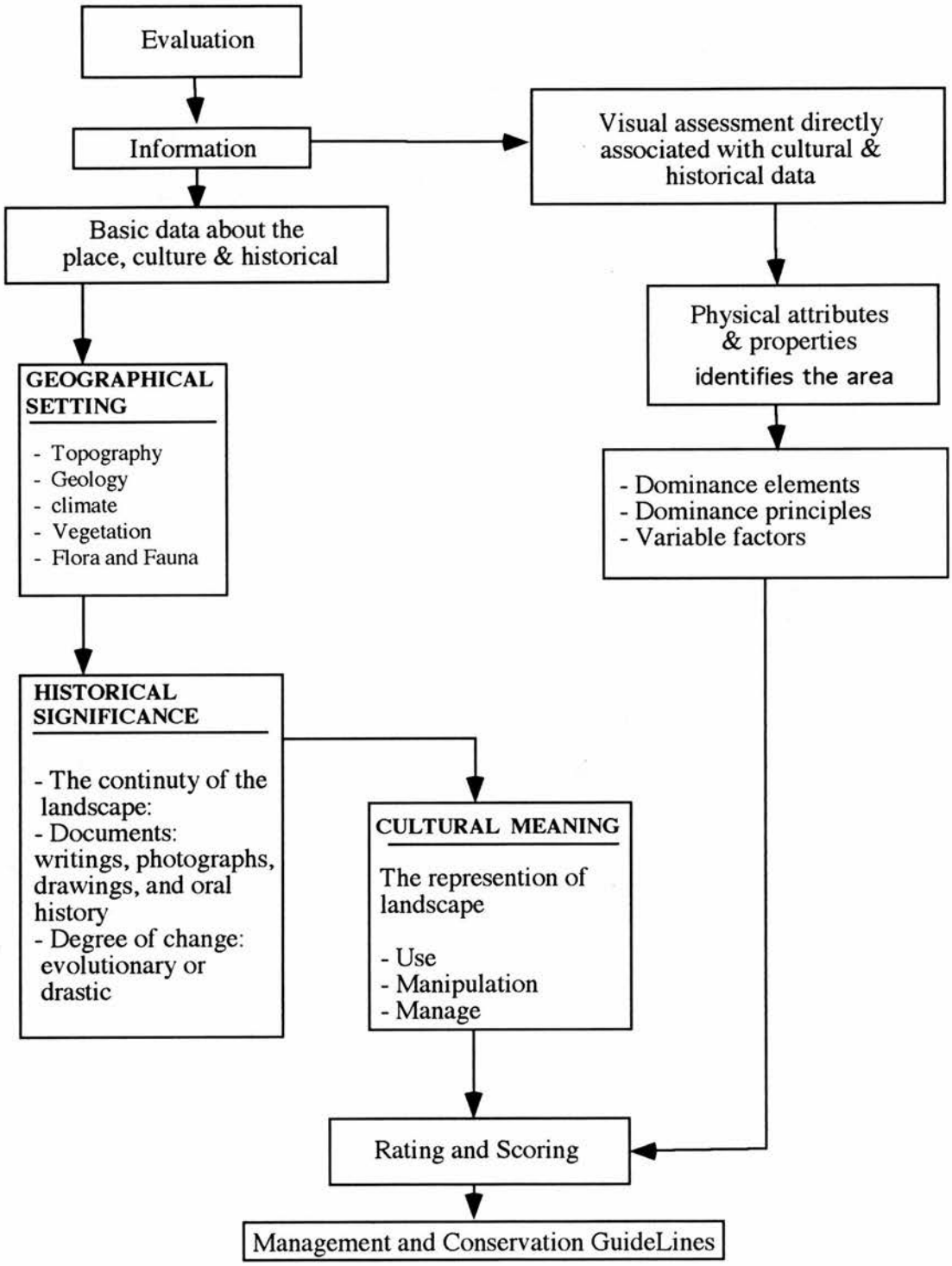
The previous chapter has looked in some depth at the application of the visual assessment component of the proposed model for assessing cultural landscape in the 'Asir region. This short chapter shows a full application of the model (figure **5.1**), as modified from Melnick's original method, to fully demonstrate the basic logic and sequence. It concisely focuses on the al-Suq area (**Site No. 1 Page 162**)

Even though the site shares some major characteristics with the region of 'Asir as a whole, the data presented in this chapter are extracted from the particularities of the cultural landscape of al-Suq as they are revealed through the site analysis and interviews that were conducted on the site and discussed in the following sections. This discussion basically follows the sequence of the modified model. It describes and discusses the four basic data sets: geographical position, historical significance, cultural meaning and visual assessment. Next it debates the relevance and procedures for rating and scoring these data. Finally, it proposes general and specific management and conservation guidelines for al-Suq.

1- Geographical setting:

1.1- Topography

Al-Suq village is situated about 13Km. to the north-west of Abha, along the main road between the city of Abha and the 'Asir National park - known as **al-Soudah** park. This area is locally considered as a suburb of Abha. Its proximity to the developed urban areas ('Asir metropolitan area), and to al-Soudah National park makes it more likely to develop as a tourist attraction. Signs of that are already visible in the



(Figure 5.1) Proposed Modifications of Melnick's Evaluation Model

site, represented by both the continuous ribbon of building sites, or by the scale of traffic generated in and around the area. The site is located between 2800m.and 2900 m.above sea level, and is surrounded by a chain of high mountains - known as ***Surrat 'Asir*** (figure **4.6**). Wadi Khabib is one of the water sources supplying the area.

1.2- Geological Composition

The soils of this site are derived mainly from volcanic Harrah(s), the most common type of soil in the study area This is represented in the form of crystalline rocks in old lava flows, or as isolated volcanic mountains. The area of cultivable land encountered in this site suggests that this type of soil is very productive and may have contributed to the development of a number of settlements around al-Suq village.

The village also falls in the `The Highlands' category (as seen in chapter three). These mountains are made of massive crystalline rocks on the surface; and a granite base with a cover of sandstone or basaltic layers with sediments in depressions within the basement rocks. Surviving models of the traditional houses of this village suggest that this building material may have been hard to cut or build with, as most of these houses are built out of mud (though with a base of granite). This seems also to have prevented the development of agriculture in some areas, which are used mainly for building houses and animal sheds.

1.3- Climate

We saw earlier how the height and surface configuration of the 'Asir area as a whole makes it a unique climatic region in Arabia. In the high mountainous areas where al-Suq village is located, the effect of altitude far outweighs that of latitude. Temperature there decreases by three degrees Fahrenheit every 300 m. above sea level . Thus the maximum temperature reaches 80 F° (27° C) at an altitude over 2600 m. above

sea level. This means that the site enjoys moderate temperatures even in the hottest summer months (The average temperature in 'Asir and **Abha** in September ranges from 20° C - 25° C, falling down to 9° C in January and 15° C during the rest of the year). The popularity of the site as a tourist attraction as perceived by the recent governmental projects could be mainly attributed to this climatic fact combined with the striking mountain scenery.

The seasonal weather pattern of the site is typical of the 'Asir region, which is unstable because it lies in a transitional zone invaded by different air masses at different times of the year. This complicates the precipitation pattern. The diverse topography of the region adds to this complication. In the winter, al-Suq comes under the influence of northwesterly winds which are channelled into the Red Sea channel, and then diverted towards the escarpment, giving sporadic rainfall. There is much more rainfall on the northern than on the southern parts. This is an important factor that gives this area such a richness in natural vegetation and agriculture. Al-Suq is located in an area that receives the highest rainfall of Saudi Arabia

1.4- Flora and Fauna

Vegetation

As seen in chapter three, types of vegetation in general in the 'Asir region varies with altitude. These, however, can be divided into two main categories: natural vegetation and agriculture.

A- Natural Vegetation

The main type of plant in this area is Juniperus procera ('ar'ar trees) which tends to grow in humid, cold climates. A number of other species also grow and are

used for different purposes by the inhabitants of the region. In general, the main characteristics of the natural vegetation of al-Suq is its density on mountain slopes and pasture land. While the area has been described in tourist booklets as "forest areas," the site analysis revealed that natural vegetation, although of great variety, remains as agglomerations in scattered locations. It does, however, contribute to the green colour that seems to be the dominant colour of the area as a whole. In many areas, the natural variety of plant species lends form and character to an otherwise monotonous site.

On the social level, the natural variety of vegetation species in the area are highly valued by the inhabitants who practice what is locally known as "public medicine" or folk medicine. The fact that the local 'doctor' of their village extracts various kinds of medications from these species means that not all natural vegetation areas are left free for grazing animals and that each tribe or village reserve the right to the sites where important sources of medicine are available. An example of these plants are summarized in the following table:

Plant name	Family name	Local name	Location	Medical use
Citrullus colocynthis	Cucurbitaceae	Al-Handhal	Disturbed ground	Diabetic,abortion
Ziziphus spina-christi	Rhamnaceae	Sidir	Warm places	Hair remover
Juniperus procera	Cupressaceae	'Ar'ar	Highlands	Eye care
Ricinus communis	Euphorbiaceae	Khirwa'	Sandy soil	Diarrhoea
Olea europea	Oleaceae	Al-Itim	Highland	Bandage
Rumex nervosus	Polygonaceae	Ithrib	Rocky habitats	Diabetics
Dodonaea viscosa	Sapindaceae	Shath	Igneous rocks	Tanning
Peganum harmala	Zygophyllaceae	Harmal	Sandy habitats	Diarrhoea

(Table 5.1). Natural plants that are of major importance to the inhabitants of the region of 'Asir.[1]

B- Agriculture

The following table summarizes the various agricultural products of al-Suq village:

		CROPS		
The Highlands (al-Suq Village)	Sorghum (Dura)	all over	spring and summer rains	summer
	Wheat	terraces	rainfed crop	winter
	Barley (Sha'aer)	terraces and wadis fields	runoff	winter
	Alfalfa (Barseem)	wadis oases	permanent irrigation	all over
		FRUIT TREES (FAKHAH)		
	Grapes, Apricots, Plums, Almonds, Pears, Figs, nuts, pomegranates	mountains basins	wadis flow, and wells	summer, and spring

(Table 5.2) Agricultural Products

The agricultural production of al-Suq village and its surrounding areas includes major food crops, which remain the dominant type of plantation in the whole region of 'Asir. For example, various sorts of grain, wheat, barley, sorghum, and dukhun ***(Bulrush millet or penisetum)*** are still grown in 'Asir region, most of which is concentrated in al-Suq and its surrounding villages. Various other types of agricultural products are also grown. These would include lentils, beans, sesame (an oil-seed), and alfalfa. Fruit growing was introduced to the area recently (the late 1970's) on a small scale.

Summary of the Geographical Setting:-

The main geographical features of al-Suq area are those influenced by its fertile soil, moderate climate, and natural vegetation, which dominates the scenery and are represented mainly by *'ar-'ar* (Juniper) trees, especially on the mountains. Apart from these elements of vegetation, the local agricultural crops also occupy a considerable area of land in the lower parts of the site as well as on the terraced mountain slopes. The fact

that there is hardly any flat land for considerable sizes of cultivable lands led to the extensive dependence on man-made terraces as a compensation for this geographical disadvantage. Another main feature in the site is the small valley known as **Wadi Khabib** that flows from north to south.

2- Historical Background of al-Suq area:

Al- Suq area is one of the suburbs of Abha city as described in chapter three. This area of Abha is inhabited by the tribes of 'Asir and Bani Mughyd. The site of al-Suq village is located in the most populated area of the whole 'Asir region where the majority of governmental projects and national park developments are concentrated. Al-Soudah National Park, which is located to the north-west of Abha has recently led to some tourist activities in and around the site and is considered to be an influential factor in the social and physical changes that are taking place in the villages around it.

The lower mountain slopes of al-Suq have been artificially terraced by the local villagers since time-immemorial to increase the agricultural land and to trap rain water for irrigation purposes. These ***Mastabat*** (sing. ***Mastabah*** = man-made terraces) are characteristic of the entire region, and give this particular site it's distinctive character and identity. However, no more terraces are being carved from the mountains by the new generations of al-Suq villagers and those existing are deteriorating rapidly because of insufficient use and maintenance (figure **5.2**). Instead, most of the new agricultural expansion is taking place on the plains around the site, as modern machinery and irrigation replace traditional farming techniques.

(Figure 5.2) Existing man-made terraces are deteriorating rapidly because of insufficient use and maintenance.

Buildings in the village can hardly be classified as "vernacular" architecture because the local inhabitants tend to follow the available market trends of building styles which are mostly a mix of mud, bricks and concrete structures of eclectic styles (figure **5.3**). Although most of the local houses are funded by the Saudi Real Estate Development Bank, there are no regulatory measures or building codes as to the types or styles of development set by the bank. The result is a domestic architecture which is far from being rooted in the traditional architecture of the 'Asir region. Only a few remaining traditional houses indicate the concern of some older residents to maintain their cultural heritage and lifestyle. These, as discussed in chapter five, are potential participants in the proposed management policies for the conservation and protection of the 'Asir cultural landscape.

(Figure 5.3) Buildings in the village can hardly be classified as "vernacular" architecture.

3- Cultural meaning:

Socio-Cultural Characteristics

Mixing with the locals in their daily activities during the preliminary pilot-study indicated the existence of a stable, homogeneous and collectivistic community, the members of which are mostly related to each other through intermarriage and patriarchal ties. This rural society is still governed by an elderly native - known as ***sheikh al-qabila*** or the head of the clan/tribe. It is a tightly-knit community where social and economic cooperation is still vital to the livelihood of most members.

The local economy is generally agricultural-dependent, a continuation of the traditional economy of the Southern Region of Arabia. This is in spite of a recent trend

by younger locals to migrate to the metropolitan area of Abha - seeking governmental jobs, freelancing or other commercial occupations. This phenomenon is now threatening the traditional farming modes and the related lifestyle. Older members of the farming families, not able to co-ope with the physically-demanding agricultural activities, have became dependent on non-native workers to help them. These are not only ignorant of the traditional farming techniques and other associated activities, but lack any attachment to the land other than their salaries. In turn, the traditional farmers became mere land lords and are also losing the vital link with their traditions.

The main activities of both genders as well as the various age groups on the site are agricultural oriented ones which include animal herding, dairy production and grazing. It is to be noted however, that no specific statistics could be supplied by any governmental agency upon which to construct an age-sex pyramid. The sheikh of the village of al-Suq estimates a total population for this village and its surroundings of over 1000. The visits to the site indicated that most of the labourers in the fields were aged between 10 years old to over 70 years old of both genders, although the percentage of male workers seem to be much higher than that of female ones.

Non-native workers are also a common feature of the social structure of the village, although, again, no specific details are available other than personal observations which put the ratio of non-native workers to natives ones to about 1:15. Those are not necessarily non-Saudies but are rather referred to by the villagers as temporary workers.

Summary of the Historical Significance and Cultural Meaning:-

The main point of significance in the socio-cultural characteristics of the village, and its surrounding areas does not lie in the historical significance of al-Suq in the

culture of 'Asir, but rather in the abrupt social and physical changes that are taking place and are altering the socio-cultural organization of the area. The gradual disappearance of cultivable land due to increasing use of irrigation machinery, the deterioration of terraces, the migration of young farmers to larger cites, the abandonment of traditional farming techniques and the replacement of the traditional agricultural-based economy by that of governmental wages, all are contributing to the collapse of a once thriving cultural landscape. The interrelationship of these physical and social factors, each and collectively tend to take its toll.

4- Visual Assessment:

According to the modified Melnick's model for cultural landscape assessment, once the basic data about the site in question has been obtained (as far as the historical background of the site is concerned) field work begins to assert certain physical and social aspects of that site. Mainly, the step for visual assessment aims at the identification of the main visual properties of the site, the presence of visual evidence of man's alteration of the landscape, human activities, movement and so forth. In order to establish the scenic quality of the studied landscape, the visual assessment stage should support the cultural and historical significance of the site by adding a further layer of meanings to the overall significance of the site. In other words, unlike the conventional analysis of landscape, the application of it here, in the assessment of cultural landscape, is not solely meant to establish the quality of the site, but rather to enhance the overall analysis.

The following is a representation of the actual work-sheets used during the field trip, and in the analysis of the al-Suq area in particular (see Appendix B for the on-site analysis sheets).

Project: AL-SUQ **Date:** 14-7-1990

Time: Morning **Weather**: Summer (hot to moderate, rain in the afternoon)

Viewpoint: Variable (see notes in the following sheets)

Direction of the view: Also variable:- Towards the east and the north east (road behind observation point)

Description: General Impression

* Looks like the whole place has been modified by man. Man-made terraces are re-shaping the sides of almost every mountain slope. Competing with the hands of man are the natural trees and shrubs which seems to creep into almost every feature of this place (especially the 'ar'ar trees).

* Cloud formation of white cottony shapes against a dark blue sky and extensive green land seem to be part and parcel of the whole landscape.

* Seems like an abrupt change took place in many areas of the site (mainly altered by modern buildings and farming equipment).

Significant Impact:

* A small white mosque (photo 1P) and some abandoned houses on the left hand side of the forth observation point represent a focal point of building agglomeration (figure 4.13).

* Some concrete buildings modelled on the traditional houses are located almost outside the traditional precincts of the village (very few authentic 'Asiri houses, the rest are `traditionalized' modern one).

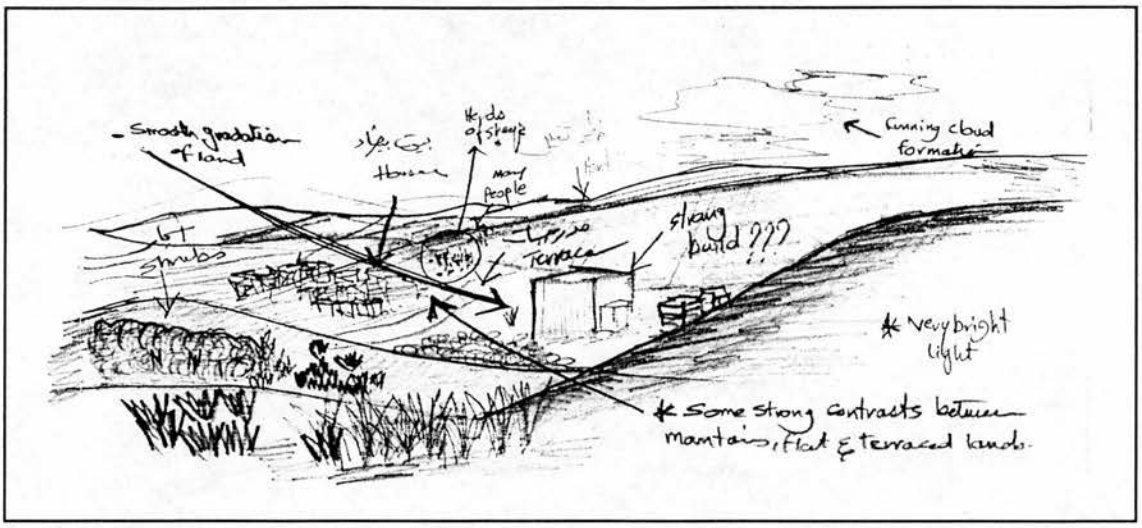
* There is a need to investigate the significance a stream to the east side (running from north to south) of the village.

* Strong governmental influence in the village represented by a large number of trucks and official vehicles.

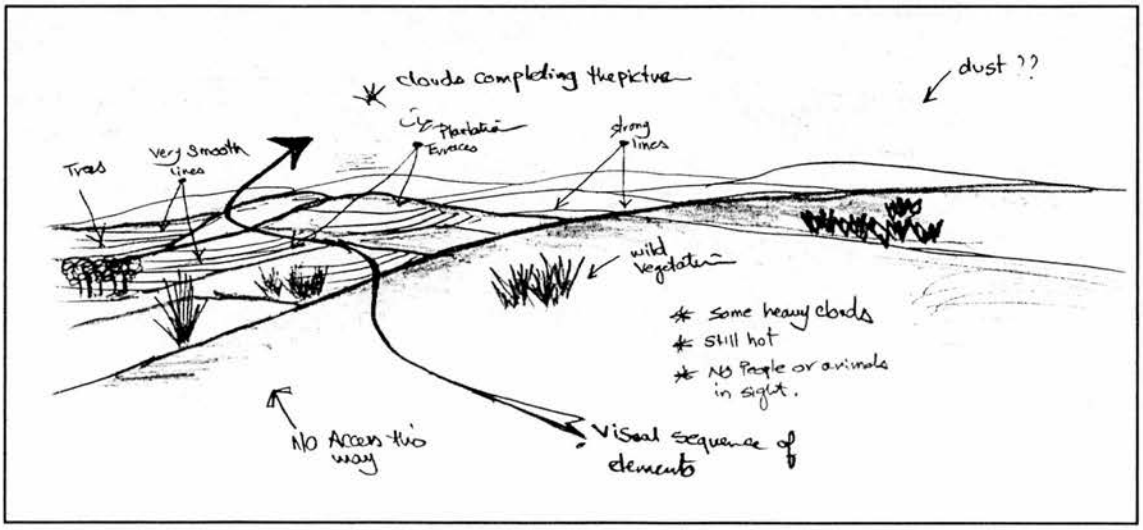
* Elderly population is dominant which suggests that most of the younger people left their home village for the Abha metropolitan area.

Dominance Elements (see figure 4.8 - 4.11, pages 168-171)

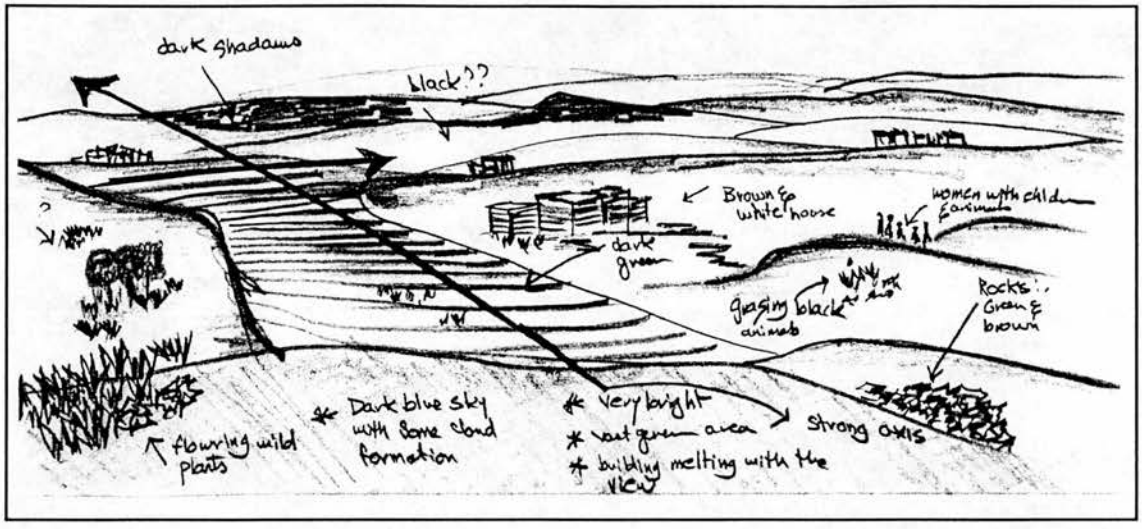
Form



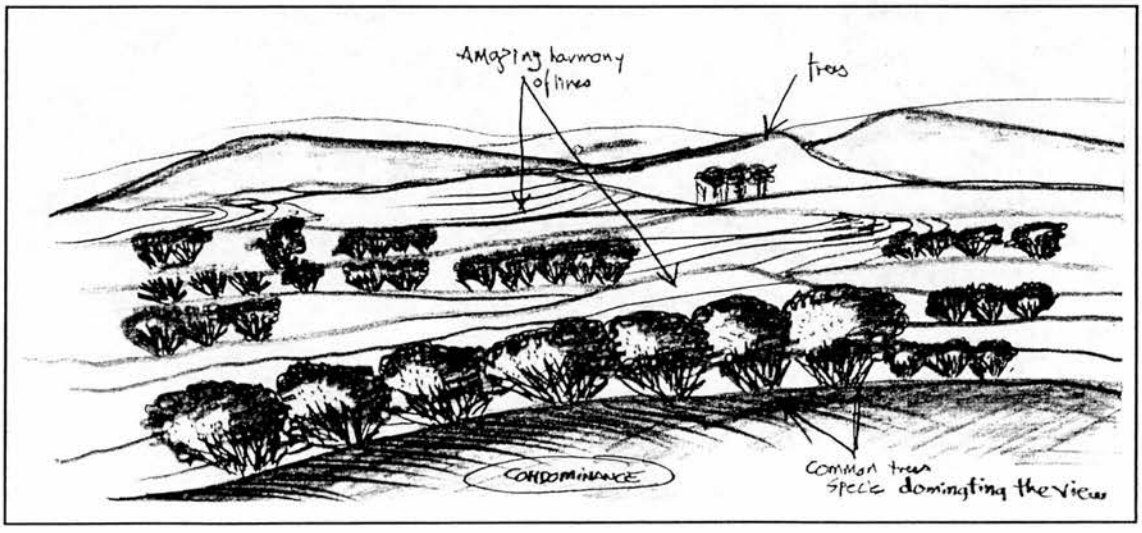
Line



Colour



Texture



Dominance Principles (see figure 4.12, page 174)

Contrast

* Most contrasting elements were included in the sketches (figure **4.12**, Diagram **1**);
* Solids and voids seems to be the major contrasting elements of the site;
* Hard lines of the sky-line and softer smaller lines represented by the contours of the man-made terraces are other attractive and dominating visual elements.

Axis

* Represented by smooth and flowing contour lines of the man-made terraces leading the eye from the lowland to the highland, penetrating through this solid mountain formation to create an unescapable visual access. This is shown in a sketch as well as in a photograph (figure **4.12**, Diagram **2**);
* Some land formation in this site are so dramatic that the axis cutting through them is obvious even to an untrained eyes.

Codominance

* A common type of natural vegetation and a dark variety of green plants dotted with colourful variation seem to establish a character for most of the observed areas of the site;
* Houses are potential features for visual codominance with these plantations especially when available in large agglomeration like the one shown in (figure **4.12**, Diagram **3**).

Sequence

* Photographs and sketches (figure 4.6-4.11) show the amazing sequence of some visual elements of the site such as rows of wild shrubs leading to a gap between two large hills;

* Sometimes it is felt that the movement of women with their children to and from the terraced area seem to form a line (black dotted line) from the white houses in the background to the green areas of the fields!

Convergence

* A distinctive hill, almost free-standing in the centre of many observation points represents a convergence visual element. By creating a dramatic focal point, it seems to alter the cone of vision towards its green slopes, centring the picture by dividing it into two separate physical entities.

Enframement

* Only what is observed in (figure 4.6, Photo 3) could represent this visual element: This was the site of two large blackish-green mountains engulfing a small settlement with a few houses and animal sheds. Initially enframement by the car window seemed to cause this visual effect. Only a second look from a closer observation point revealed the beauty of this place.

Variable factors (see figure 4.13, page 175)

Observation time

* Time of the observation ranged from mid morning to mid afternoon (10:00 am - 2:00 pm);
* This seems like a convenient time-allocation for observation as a number of activities in the villages take place within the different parts of the site;
* To avoid the rainy summer afternoons;
* Earlier observation from 7:00 am did not prove to be worthwhile as most activities at this time were monotonous (the locals spend this time in the fields)

Scale

* The scale here could be classified as intimate. Photographs and sketches explain the reason behind this classification.

* Because of the artificial slopes, the scale and domination of some mountains are greatly softened and reduced to an intimate scale.

Observation Position

* High ground overlooking a plantation area.

* A radius of about 360 degrees.

* The road is always behind the observation point.

* Several observation points are needed to get a closer look at houses, and other activities related to agricultural activities and plantations.

Distance

* About 13 km from Abha;

* Varying distances are considered. The main factor here is the proximity of the main road to the potential observation points;

* In many cases, observation points were considered from as close as 10 meters to about 200 meters from potential landscape features and elements.

Season

* Summer: moderate to slightly cold (about 25-35° C); morning and afternoons.

Atmospheric Condition

* large cloud-formations seem to decrease the impact of the sun, especially afternoon;

* In general, mornings are more moderate than evenings.

Light

* For several hours of the day, light seems to be flooding an array of sites, presenting some attractive visual effects at times. Site-observations are sufficient in morning hours (light conditions);
* Sun-angle effected observation through photography, but sketches solved part of this problem.

Motion

* Restricted use of a vehicle in most parts of the site. Unpaved roads led to the most interesting parts, especially man-made terraces and local activities.

Summary of key Physical and Socio-cultural Features of Al-Suq Site:-

The natural features of the site are represented by a sky line that is dominated by the mountain slopes and the man-made terraces. These tends to vary in sequence, thickness and elevation from one view point to the other creating a dynamic visual effect. Potential observation points resulting from the different elevations of the site makes the village of al-Suq a very attractive area for tourists. In addition, the dominance of different grades and hues of the green colour - represented by both natural and agricultural vegetations - adds to the visual harmony of the village. It also appears that the summer months provide the best time for visiting this village which is another factor that contributes to the intensity of visits to the village during this period. The fact that the village is located on the main route to al-Soudah mountain - a main attraction in the region - almost makes a visit to al-Suq a requirement for any visitor to the area.

Apart from the visual features of the village, it appears that **al-Suq** is a culturally significant site. This area still maintains a traditional lifestyle where the mosque is the focal point and the centre of community gathering. There, the leader (***sheikh al-qabilah***) of the village meets with member of his community on a daily basis to discuss the affairs of the community and decide future action. This process may by-pass any governmental authority when it comes to crime, for example, or any local disputes.

The new unplanned developments that were introduced to the area in the later part of 1975, encouraged by the Bank of Real Estate Development, resulted in a scattered layout. This in turn reduced the role of the mosque as the focal and gathering point of the locals as well as minimizing the social activities amongst the community members. Improvement and development were not synonymous with life enhancement (e.g., irrigation systems, fences, pathway, and unsuitable building materials).

The site has a certain character that could be utilized for its own protection and continuity with the utmost regard for the cultural significance of these characteristic. In other words, an unplanned development is needless if it is going to destroy the very reason for such development, that is the conservation of the historical and cultural heritages, the conservation of the natural and built environments, the well being of the inhabitants and the conservation of the identity of the whole nation.

5- Rating and Scoring:

As discussed in chapter six, it was discovered during the analysis of the case studies - presented in chapter three, four, and five - that the adoption of any rating and scoring system falls outside the scope of this research. This is mainly because of the complexity of the issue and the fact that it would require a much lengthier research than

this one can offer. However, it was found that by replacing this step from the proposed cultural landscape assessment model with a summary of the **Key Elements** of the case studies (physical and socio-cultural) provided a usefull checklist of relevant data. The key elements of each step of the model's application analysis must be seen and understood within its particular context (figure **5.4**); a summary of these key elements is provided under each title, and are also gathered together as a final statement of the elements of the cultural landscape (table **5.3**).

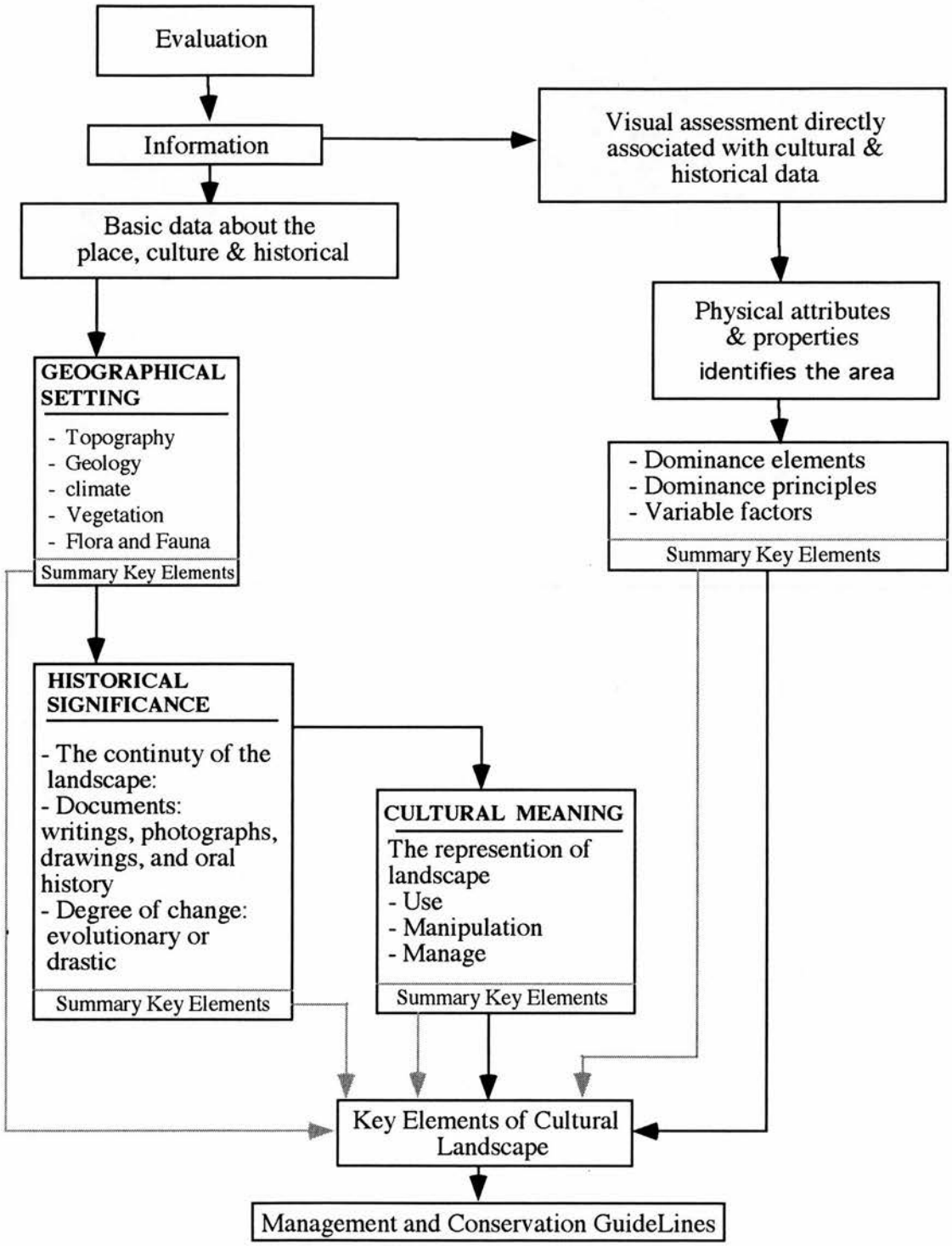
1- Geographical Setting	- Topography * 13 Km. north-west of Abha, 2800-2900m. ASL; * Consider as a suburb of Abha; * A potential tourist area; * Surrounded by surrat 'Asir high mountain chain; * Water supplied by Wadi Khabib; - Geological composition * Volcanic harrahs soils which is very fertile; * Mountain of massive crystalline rocks and granite; - Climate * Maximum temperature of 27° at 2600m. ASL; * Considered to have a mild climate; * General climatic conditions are typical of 'Asir; - Flora and Funa * Mainly 'ar'ar trees which are dense on mountain slopes; * Scattered forest.
2- Historical Significance	* Inhabited by the main tribes of 'Asir; * Located in the most populated region of the Kingdom; * The focus of ' National Park' development projects; * Tourist attraction leading to major demographical and socio-cultural changes; * Historical man-made terraces are the main cultural feature of the "Vernacular" Buildings are disappearing at a high rate, replaced by electic styles; * Some concerns of preservation and conservation are expressed by old inhabitants.

3- Cultural Meaning	* A relatively stable, homogeneous and collectivistic community * Governed socially by Sheikh Al-Qabila and administerally by the principality of 'Asir; * Local economy is agricultural-dependant; * Young inhabitants are abandoning traditional lifestyles and economic modes of living; * Non-Native inhabitants are introduced to the region to undertake agricultural activities; * New and modern machinery are replacing traditional irrigation and agricultural methods.
4- Visual Assessment	* Site dominated by mountain summits and slopes that are artificially terraced; * Green is the dominant colour, represented by both natural and agricultural vegetation; * Various accesses cut through the site at different intervals creating visual sequence of solids and voids.

(Table 5.3) Summary of Key Elements of Al-Suq

6- Proposed Policies For the Conservation and Protection of the Cultural Landscape of 'Asir:

The Countryside Commission and the Ministry of Agriculture and Fisheries conservation efforts throughout the United Kingdom has proved so far to be a very effective tool for saving as well as reshaping the landscape of that nation. In this section, an attempt is made to adopted some of these policies to the case-study of al-Suq. This should not only include policies for limiting changes to the landscape, encouragement for environmentally-friendly farming policies, providing grants to farmers for conservation[2], but also critical consideration for the socio-cultural organisation of the population of al-Suq area, stabilisation of its labour force, and conservation of the architectural heritage of the region.



(Figure 5.4) Proposed Modifications of Melnick's Evaluation Model

This is said in the sense that most of the policies proposed by the Countryside Commission could not be adapted to the region in question without both major and minor modifications, depending on the `treatment' required. The main emphasis of this part of the research is the conservation of the cultural heritage of the population of al-Suq village. This is the main priority, under which comes other associated issues like the integration of modern and traditional farming techniques.

While the evaluation of the Countryside Commission's policies is beyond the scope of this research, their main principles, however, represent a major point of contribution to this chapter. In other words, the principles of providing financial incentives and compensations to encourage farmers to participate in the conservation schemes proposed by the Commission, is a policy that this section of the chapter proposes to adopt to produce similar results. As discussed later, most of the proposed policies are modified from those represented in the Countryside Commission's Publications[3] to suit the particular culture of the region as well as that of Arabia as a whole.

These modifications takes into account the particularities of the culture in question. For example, in the political system of Arabia, the participation of farmers in any governmental policies or planning schemes are treated by people as a national obligation rather than mere options. This should guarantee a large number of participants in the conservation schemes. It should also consider facts like the socio-cultural organisational system of Arabia which is directly based on Islamic institutions concerning the position of man in the universe and his role in the application of God's convictions[4] concerning the conservation of the environment.

The cultural landscape of 'Asir addressed in this thesis is the creation of many generations of farmer families. People have spent their lives modifying the land to suit their purposes to the best of their skills, knowledge and physical abilities. The land, in

turn, had its impact on the characters, behaviour and way of life of these families in a reciprocal way in which people are identified with the land and the land is identified by the people. Today, the effort of these generations faces the prospect of being forgotten as a result of the drastic social and physical changes that are taking place in the region. However, many historic features still remain relatively undamaged in spite of the rapid pace of change and the extent of impact that the forces of change discussed in the thesis are developing on a number of levels in the region.

While the traditional houses of 'Asir are less comfortable than their modern counterparts, they still remain a part of the cultural landscape and should be highly valued for their scenic beauty and as reminders of the heritage of this region of Arabia. Similarly, the man-made terraces which were once carved into the mountain slopes to preserve rain water and widen cultivable land should not be neglected because modern irrigation equipment can deliver water to desired plantations. These physical changes are accompanied by more dramatic changes in the social structure of the region. Traditional farmers are becoming landlords employing a foreign labour force who are ignorant of the traditional agricultural methods of the region, while the younger farmers are turning into governmental employees, taking minor jobs in the 'Asir metropolitan area. In short, most if not all of the changes that are taking place in this region, as discussed in the past two chapters, are hostile to the cultural landscape and something should be done to rectify the situation.

A new approach could be adopted by a number of governmental agencies, individually or collectively co-operating to conserve and protect the cultural landscape of 'Asir. To name but a few of these concerned groups; Amarat 'Asir, the Ministry of Municipalities and Rural Affairs, The Ministry of Agriculture, The National Commission for Wildlife Conservation and Development, The Ministry of Higher Education (Antiquities Department), The Real Estate Bank of Development among others. A planning board formed amongst these agencies, perhaps known as "The 'Asir

Cultural Landscape Joint Planning Board", would be well capable of setting special management policies and farming practices aimed at protecting and enhancing the natural environment of 'Asir, the conservation of the architectural heritage and the maintenance of the traditional social organisation of the region.

By examining possible arrangements for protecting and managing the cultural features and landscapes of "Asir, this chapter proposes a number of policies aimed at the promotion of positive management of the cultural landscape of the region. It explores the implications of implementing such policies by redirecting the social, economic and political changes in the region towards a more productive agricultural land, more culturally-representative houses and a more stable social organisation in the region. It offers advice on how "The 'Asir Cultural Landscape Joint Planning Board" might improve the conservation and management of the cultural resources of the region.

This section first discusses the proposed management policies, required action plans, their goals and objectives. Appropriate management for the six case studies addressed in this research is discussed, and possible voluntary conservation schemes are proposed for the entire region. These proposals takes consideration of the traditional character of the cultural landscape of 'Asir and the changes that are taking place today in response to changing technology and cultural conditions.

This section also investigates the policies and administrative arrangements for implementing the objectives of such policies which are mainly the conservation and enhancement of the cultural landscape of the region of 'Asir as discussed later. This includes the provision of funds and grants to the inhabitants willing to participate in the conservation efforts, training programmes and evaluation of the progress of the conservation and enhancement policies.

6.1- Purpose of Cultural Landscape Conservation

In chapters three, four and five, the threats to the cultural landscape resources of 'Asir were discussed and identified. We also saw in these chapters that there is a great deal that the natives of Arabia do not know about the traditions of the 'Asir region and which are yet to be discovered. The fundamental aim of this research, beside the understanding of the cultural landscape of the region is to deliver such knowledge to concerned groups who, in turn, will make sure that public awareness about the heritage of the region is raised. This requires the conservation and protection of what is left of this heritage, and to prevent the disappearance of existing evidence of human settlements as other traditional settlements in Arabia were demolished and have since been forgotten.

6.2- Aims of the Proposed Management Policies

1- The primary objective of the proposed planning and management policies is to protect the traditional, historic and cultural qualities of the landscape (i.e., physical features and social organisation).

2- The proposed "'Asir Cultural Landscape Joint Planning Board" is responsible for the historic conservation of the cultural landscape characteristics of the region. The joint efforts of the concerned groups comprising the Board should continue the implementation of conservation policies in the region, providing necessary grants and financial aid for the success of the policies.

3- As a living cultural landscape, the region of 'Asir is subjected to adaptation and change to accommodate modern technology, economic demands and social needs. The proposed efforts of the joint planning board should be flexible enough to accommodate such change while maintaining the traditional heritage of the region. Such integration

should avoid unnecessary destruction of valued cultural landscape characteristics in favour of introducing modern technologies reminiscent of what has happened in other areas of Arabia (i.e., the destruction of the major historical landscape in the city of Al-Madinah). A delicate balance between the past, present and future should be maintained.

4- As discussed in chapter one, the cultural landscape of a given region is a wholistic system, the disturbance of one part of it would disturb the whole system. Accordingly, conservation management policies should aim at protecting coherent areas and not particular sites as it is the case in the ***mahmiyyat*** system devised by the Ministry of Agriculture. In such a system small sites containing endangered species of flora and fauna are designated as ***mahmiyyat*** or protected sites. Similarly, when the National Park at ***al-Soudah*** was designated, only natural and scenic resources were considered of value. The management plan largely ignored the fact that the Park had been settled for arable and pastoral use for centuries and was undoubtedly a cultural landscape.

5- The natives of the region should be directly involved in the formation of planning and management policies and the decision making process. They should also be involved as consultants on the cultural and historical values of designated areas. This should minimise the bias of outsiders and professional value judgement as well as raising an awareness amongst the inhabitants of the region of the importance of protecting their traditional heritage.

6- Through the exploration of the six case studies discussed in chapters four and five, recommendations should be made as to priority action plans for the most threatened areas and sites of significant cultural value.

7- Proposed Management Policies for the Conservation and Enhancement of the Cultural Landscape of 'Asir:

These cover two main areas, the built environment and the traditional agricultural patterns.

7.1- Conservation of the Architectural Heritage of 'Asir

The aims of such policies are to ensure the conformity of proposed houses to the traditions of the domestic architecture of 'Asir. Through maintaining a continuous link between the past, present and the future of the region and by allowing modern technologies and design themes to be integrated, the cultural link between people and the land will be maintained for generations to come.

However, to impose certain architectural 'styles' by the government is both an unrealistic and unsatisfactory measure. On the other hand, certain policies could be introduced to encourage the natives of 'Asir to choose more culturally-authentic and representative house models. For example, the Real Estate Bank of Development could persuade the large number of inhabitants dependant on its aid to participate in the implementation of such a policy by providing higher loans and longer repayment terms.

The authenticity of house models could be determined and supervised by the staff of the Ministry of Municipalities and Rural Affairs as members of the "'Asir Cultural Landscape Joint Planning Board." In such cases, the board could help prospective home owners to choose climatically-suitable building material, proper orientations, space configuration and the like. These services should be provided with the least financial obligations on the part of home owners as a further encouragement.

Most of the land on which houses in today's 'Asir are built does not have legal status or documentation. Instead, most land-ownership in the region is based on the traditional norm of tribal territories, squatting or usucaption. The "'Asir Cultural Landscape Joint Planning Board" could grant legal status to houses reflecting the best of the vernacular architecture of the region. The study of the cultural landscape of the region discussed in chapters four and five revealed that having a legal status for the land and the house on it is a highly valued notion amongst the inhabitants of 'Asir. Building on this notion could increasie the number of inhabitants participating in the implementation of the proposed conservation policies, hence the maintenance of the traditional character of the landscape. However, it should be borne in mind that such policies can be implemented only as persuasive means because architecture can only reflect the prevalent socio-cultural norms, attitudes and values but it can not make them. People in the region must want to preserve their traditions and live within their cultural beliefs and values before their houses can reflect their intentions and actions.

7.2- Conservation of Traditional Farming Methods

These proposed policies should begin by selecting areas under significant threat, such as al-Suq site, (see chapter five). Once these sites are selected and their cultural value is determined, particular traditional farming techniques should be investigated, studied and documented along the lines of the modified Melnick's model (i.e., interviews with elderly farmers). These techniques should then be learned by designated personnel from the "'Asir Cultural Landscape Joint Planning Board" who are assigned to implement the training programmes (discussed later in the chapter).

A number of economic incentives are proposed to persuade farmers to participate in the conservation management polices. These are summarised as follows:

1- Before modern agricultural machinery is to be bought and used on cultivable lands, the "'Asir Cultural Landscape Joint Planning Board" should provide free training and supervision to farmers as to the best possible and least hostile usage of these machines to prevent over irrigation and over salinity of the soil endemic to today's agricultural practice in the region. The size of any machinery should also be in proportion to the size of the fields or terraces to be cultivated. This will help to avoid field amalgamation, with consequent change to scale and pattern of the designated areas.

2- Government subsidised farming equipment should be provided for farmers employing a native labour force (preferably descendants of farmer families). Such subsidised equipment should not be available for farmers who employ non-natives. This should in help stabilising the social organisation of farmer families who's adults have departed their traditional means of livelihood seeking higher paying jobs in the 'Asir metropolitan area.

3- The "'Asir Cultural Landscape Joint Planning Board" should recommend that the Ministry of Agriculture refrain from allowing foreign labourers to be employed by native farmer families before passing certain training programmes. These training facilities should be provided for families with no working adults and who need the assistance of non-native farmers. The aim of such training programmes is to introduce non-natives to the traditional farming techniques of 'Asir and how these can be integrated with modern technologies.

4- Some descendants of traditional farmer families seeking minor jobs in the government could be employed by the proposed "'Asir Cultural Landscape Joint Planning Board" as consultants on traditional farming techniques and as trainers of the non-native labour force.

8- Advantages and Limitations of the Proposed Management Policies:

The following are the perceived advantages and limitations of the proposed policies.

8.1- Limitations

1- Such policies are voluntary and therefore full participation of farmer families is not guaranteed.

2- This suggests that the rate of success of such policies would depend on the number of families persuaded to participate in the conservation efforts and their concentration in certain areas.

3- High income groups who are the initiators of ideas of change, are also the least likely group to be persuaded by economic incentives such as those proposed above (i.e., land-ownership schemes, subsidies).

8.2- Advantages

1- The proposed policies will be applied to areas of similar social organisation, cultural norms and values, and which are under similar threats of change. Therefore, large numbers of participants could be expected to join in the cultural landscape conservation and protection programme.

2- The success of implementing such policies could encourage the concerned governmental agencies to apply similar schemes to other endangered cultural landscapes in Arabia.

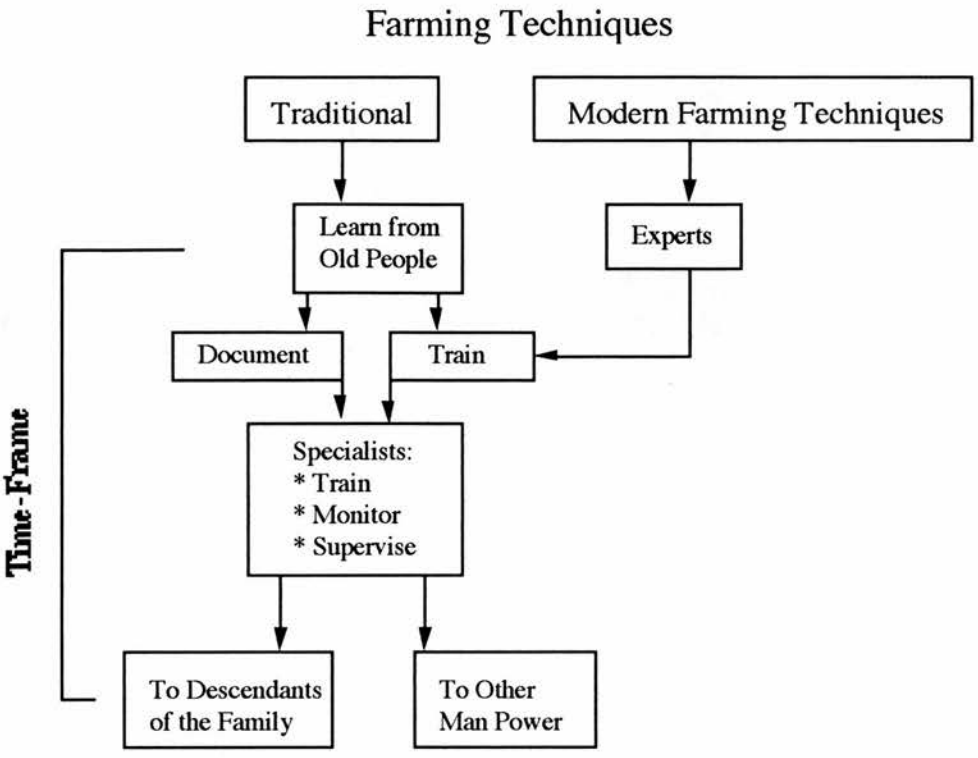
9- Environmental Monitoring, Supervision and Training Programmes:

The proposed policies - as mentioned earlier - require the participation of many important governmental agencies, represented on the proposed "'Asir Cultural Landscape Joint Planning Board". The activities arising from such polices suggest that the assigned staff of each of these agencies should be selected on the basis of speciality in the various fields of agriculture, history, architecture, engineering, law, economy and real estate development among others. The size of the designated areas and the scale of the conservation policy require that "The 'Asir Cultural Landscape Joint Planning Board" should have sufficient personnel for each of the three required activities: monitoring, supervision and training. Figure **5.5** summarises the activities required by the proposed board. Note that a time-frame should also be adopted in order to allow for feed-back and revaluation of the progress of each of these stages and their associated activities. For example, if a time period of five years was assigned to the completion of the first trial period, each of these activities could then be assigned a sufficient time-frame as required by its professionals as necessary for its completion or fulfilment and so forth. These time-frames could then be re-evaluated for adequacy to meet the assigned activities.

9.1- Monitoring

A) A comprehensive survey of the designated areas, similar to that carried out in this research, the aims of which is to determine the number of willing participants, their location and distribution over the extents of the 'Asir region.

B) Contact with sheioukh of the villages to determine the possibilities of involving the leaders of various communities in the implementation of the proposed policies.



(Figure 5.5) Integration of Traditional and Modern Farming Techniques While Preserving the Traditional Techniques.

C) Establishment of an information centre where the data-base resulting from the comprehensive surveys could be available for other specialised personnel and future researchers. For example, locating areas of historical significance where the traditional houses are being replaced by modern and culturally-unrepresentative housing could help the staff of the Ministry of Municipal and Rural Affairs to prepare priority action plans for such areas.

D) Once the implementation of the proposed policies takes place in a certain area, the monitoring team can monitor the success of these plans. Information could then be updated for later evaluation of the scheme for further development, alterations or modification of policies.

9.2- Supervision

The main goals of this programme is to supervise the progress of the proposed management policies in the designated areas. The activities required by this team are as follows:

A) A weekly supervision of the progress of maintenance operations such as that of maintaining deteriorating terraces, houses, fences, fields and so on.

B) Supervision of the use of modern agriculture and irrigation methods, soil condition and the irrigation of both traditional and modern farming techniques in ways that are most productive and least harmful to the environment.

9.3- Training

Again this would require a team of experts from different fields of architecture, agriculture and engineering to participate in a training programme aimed at the preparation of a skilful labour force. The activities required by such a team are summarised as follows:

A) Training members of current farming families on the use of modern agriculture machinery.

B) Learning from the elderly farmers of 'Asir, the traditional farming and irrigation methods.

C) Preparing possible methods of integrating traditional and modern farming methods.

D) Learning from the elderly of 'Asir the traditional building techniques, use of natural building material and ways of coping with the climate by the most efficient and economical means.

E) Training younger labourers in such methods of both building and agriculture and possible ways of integrating the traditional and modern techniques.

10- How to Determine the Success of Implementing the Proposed Policies:

Instead of trying to establish a scoring and rating system to evaluate the rate of the success of the policy implementation, a number of indicators could be monitored:

1- The extent to which the cultural landscape has been conserved or enhanced by the proposed management policies (e.g., houses following traditional models and building materials).

2- The level of interest shown by the inhabitants in the proposed policies, especially as indicated by the level of participation and change in the attitudes of the locals towards conserving the cultural landscape of the region.

3- The effect on the farming business, its income and impact on employment opportunities in the designated areas.

4- Effect on the social structure of farming families and their man-power requirements (e.g., man-power consisting of family members, locals or non-native labourers).

These indicators will help in the assessment of the performance of the proposed policies and the extent to which further policies are required to enhance the performance of previous ones towards better conservation results.

Summary of the Proposed Policies:-

Design values have long been dominated by pragmatism based on the notion of designing for people in accordance with what designers themselves think or perceive of certain cultural groups. Design thinking of this kind can only help in creating a landscape that does little to reflect the inherent social diversity of a given locality. Many of our landscapes today represent landscape models that are imposed on our cities by this tradition of standard landscapes for standard people. The quality of life in our cities today has to do, among other things, with the recognition that diverse social groups need diverse landscapes, that choices between one place and another must be available. The identity of a given landscape is based on physical spaces that are controlled by the government. However the identity of the cultural landscape is based on its physical and socio-cultural nature and how people manipulate these to reflect the cultural and physical identity of particular groups.

Throughout the analysis of the case-studies presented in chapters four and five, places observed were changing radically. People are more than willing to give up everything that their forebears have achieved in the past five or six hundred years. There is a very real fear that no governmental or other agency can succeed in conserving the heritage of the 'Asir region without first enabling the inhabitants themselves to be interested in their own history, their own culture. Incentives and rewards must be established for those who are willing to protect their traditional farms, houses and, above all, their culture.

Finally, one has to acknowledge that not all cultural landscapes deserve active intervention, just as only some historic structures or archaeological sites are saved. We are at a point, however, where we are only now beginning to recognise the ordinary, everyday resources in our landscapes. These resources enrich the landscape around us. They provide extended opportunities to protect not only the specifically historic, but

also the material components of a rich and diversified cultural wealth. As we become aware of the potentiality and urgency to protect this wealth, we need to learn from previous efforts in cultural resource management. It is necessary to search for new techniques both to understand and to care for those landscapes which, by their quality and significance, serve to connect us to our past traditions. This search is obviously beyond the scope of this thesis. It is one, however, in which the government should be actively engaged. Unless means to meaningfully protect these rich and diverse landscapes and human settlements are found they will soon be only memories, an element of the folklore. As seen in several of the case studies the government has already invested heavily in national parks and tourist developments. It is therefore in their interest to protect and enhance this investment by commissioning this vital research.

Conclusion:

Except for the application of a rating and scoring system, the application of the proposed model of cultural landscape assessment to a specific site demonstrates that it is a useful and workable method. The former point, that of the validity of establishing or even following a certain scoring system is discussed in the following chapter as a debatable procedure. Chapter six also uses the experience presented here - that of the application of the modified model for cultural landscape assessment to fully evaluate this model and then to suggest how the changes to the cultural landscape identified in the research can be controlled or integrated by policy makers.

[1] Table adapted from: Abdulfattah, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

[2] These are the reviewed policies as stated in the following Countryside Commission reports:

Countryside Commission Approach. Landscape Assessment, Cheltenham: 1987.

Countryside Commission News:

* Countryside Commission News, No. 49, May/Jun 1991;
* Countryside Commission News, No. 50, Jul/Aug 1991;
* Countryside Commission News Release, June 29-1992;
* The Newspaper of the Countryside Commission, No. 51, Sep/Oct 1991;
* The Newspaper of the Countryside Commission, No. 53, Jan/ Feb 1992;
* The Newspaper of the Countryside Commission, No. 55, May/Jun 1992.

Countryside Commission reports:

* Advisory notes on national park plans, 1974 (CCP 81);
* Landscape Agreements, September 1975 (CCP-61);
* Note of the Countryside Commission's views on the Consultative Document on Forestry Policy, published 28 June 1972;
* The Bollin Valley: A Study of Land Management in the Urban Fringe, 1976 (CCP 97);
* The Lake District Upland Management Experiment, 1969-76 (CCP 93);
* The Management of Grassland and Heathland in Country Parks, 1977 (CCP 105);
* 1975 (CCP 61).

Countryside Commission for Scotland reports:

* A Policy for Country Parks, Information Sheet No. 4, 1973;
* A Policy for Regional Parks in Scotland, 1989;
* Countryside Grants, To Private and Voluntary Bodies, Individuals, and Public Bodies other than Local Authorities, 1982;
* Management Plans for Country Parks, 1984;
* Skiing at Cairngorn, a policy paper, 1989.

Countryside Stewardship An Outline, 1991-1992.

Environmentally Sensitive Areas. First Report. MAFF: England, 1989.

[3] In (Conservation of Historic Landscapes in the Peak District National Park, J. F. Wager, Peak Park Joint Planning Board, 1981);
The following purposes for historic landscape conservation are suggested:

i- Study and research of previous societies and the relationships between man and his environment;

ii- Education and awareness of human development and the endeavour;

iii- Enjoyment and recreation through appreciation of and association with cultural and artistic achievement;

iv- Providing a sense of security and continuity of the familiar and traditional environment in a changing and uncertain world;

v- Economic gain from the demand for tourism based on the enjoyment of historic landscape resources;

vi- Appreciation by future generations who discern values in the cultural landscape not yet perceived.

4 Like the concepts of ***Harm*** (inviolable zone) and ***Hema*** (protected zone) which determines the extent of man's usage of the land and their relevance to environmental planning. See Jomah, Hesam The Earth As A Mosque. Unpublished Dissertation, University of Pennsylvania, Philadelphia, 1991.

CHAPTER VI

CONCLUSION

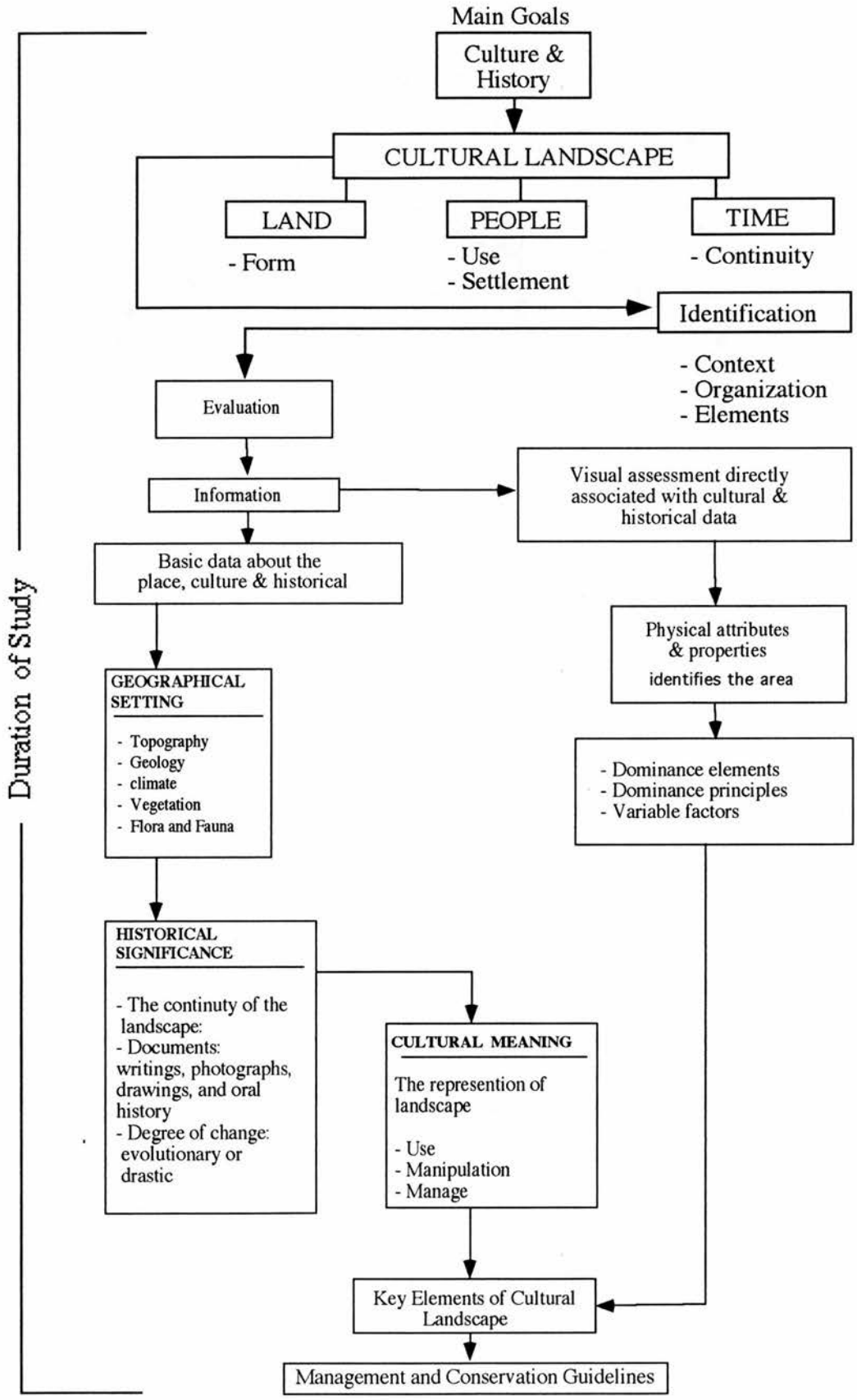
Introduction:

The aim of this chapter is to examine the validity of the proposed model of cultural landscape assessment based on the applied case-study element of this research. This includes evaluation of the success achieved by this approach in identifying and understanding the cultural landscape of the 'Asir region in the Kingdom of Saudi Arabia. The chapter presents the findings of the research as far as the application of the proposed assessment model is concerned, discuses the advantages and limitations of the model, and its validity as a planning and management tool for the assessment of the cultural landscape (represented by the case-studies in the context of Saudi Arabia). It will show that the application of the proposed model of cultural landscape assessment to a specific site - as discussed in chapter five - demonstrates that it is a useful and workable method.

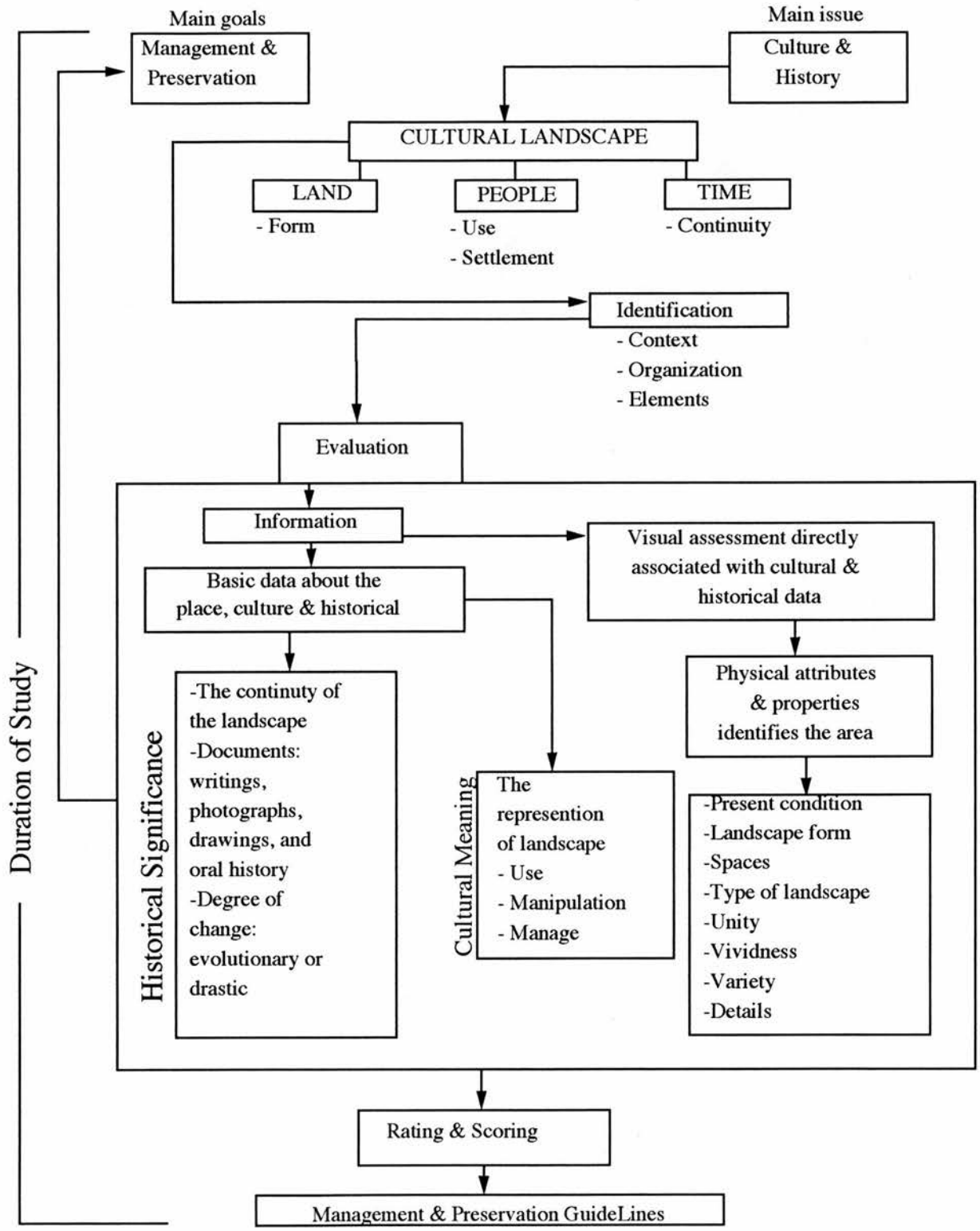
The model proposed in chapter two of this research is shown in figure **6.1** which represents the final stage of development of the proposed cultural landscape assessment model. According to the proposed assessment model (modified from a number of internationally-used landscape assessment models as discussed in chapter two), there are several stages that should be undertaken before attempting to set any values on the landscape in question. Understanding the cultural landscape is the main goal of such analysis as well as the identification of its components which form and define that landscape. The next stage is the evaluation of the historical, socio-cultural, and material value of the landscape. This stage consists of two processes:

A- collecting data about the site, which includes basic data about the place's cultural and historical identity.

B-visual assessment directly associated with cultural and historical data.



(Figure 6.1) The Final Face of the Proposed Modification Model



(Figure 6.2) The Summary of Melnick's Approach

This stage should lead to the recognition of the physical attributes and properties that define the studied landscape through the identification of its dominant elements and features, the dominance principles and variable factors. These should include all aspects of the landscape (physical, socio-cultural, natural and man-made).

PART I:

Evaluation of the Proposed Model:

As discussed in chapter two, cultural landscape assessment is rather a difficult subject to tackle because of the complexity and variety of factors effecting it, most of which are non-tangible, qualitative rather than quantitative elements. However, this research benefited from the fact that the proposed model included most of the positive methods of practical analysis that were presented by a number of recognised assessment models (discussed in chapter two). Combining these models has helped in clarifying feelings of cultural identity and meaning concerning the inhabitants of the region as well as the surrounding environment that were once either ignored or taken for granted. It appears that the adopted model carries the suitability and practicality for application to protect and conserve the vernacular landscape used in the case studies.

The proposed model directly applies the formula of cultural landscape suggested by Melnick's model, modified by some of the other landscape assessment models discussed in chapter two. In order to test the suitability of the model related to the specific cultural context - Saudi Arabia - it was evaluated against the same criteria that the other ten initial models were subjected to. As mentioned in chapter one, these criteria were extracted from the study of cultural landscape assessment made by Melnick for the National Park Services[1]. This evaluation is outlined in the following section:

Evaluation Criteria:

1- Study of cultural landscape must address significant cultural issues of human use and human alteration of that landscape:

As discussed in chapters three and four, the proposed model allowed for the analysis of both human use and alteration of the landscape in question. Simple observations of different sites of the selected case-studies sufficed to indicate the patterns of land-use and the extent of modification to the land by the inhabitants of each site. For example, in the analysis of the ***al-Suq*** site (2700-2800 meters ASL, Northwest of Abha) which was discussed in chapter 4 a visual assessment study was conducted at 11 am, on the 14th of July for about two hours which indicated that the overall form was dominated by man-made terraces, small volumes of vegetation, narrow winding roads, and houses all of which indicated human settlement dependant on farming activities. The extent of human alteration to the natural landscape was apparent by a simple contrast between the modified (terraced) gentle slopes and the untouched steep slopes on either sides of the site.

2- Cultural landscape is identified by the range of human input on the land and continuity and the length of time of the activities (as major tools of identifying the history of the landscape):

While the range of human input on the land was easily assessed in all sites through visual assessment, identification of the continuity and length of time of the activities required backgrounds of historical data, interviews with the elderly of each studied settlement and other available sources of empirical data (governmental agencies). For example, at the site of ***Maqhab*** (2700-2800 meters ASL Northwest of Abha) the range of human input on the land was visually assessed for three hours (continuous one hour observation periods every two hours). However, this only

indicated the range of human activities of one day, therefore, a meeting with an elder of the settlement was necessary to establish year long activities. This meeting revealed that the settlement of ***Maqhab*** existed for a long time with the same physical features seen today. Furthermore, travellers to Arabia - like Al-Hamadani and Philby - gave adequate descriptions of the area that helped in determining the consistency of both the settlement features and human activities for almost two thousand years[2].

3- The study of cultural landscape must involve the study of physical and non-physical elements which combine to lead to the identification of that landscape:

The proposed model allowed for the analysis of both the physical and socio-cultural elements (e.g., religion) of the case-studies as emphasised in chapter two. Throughout the site analysis - discussed in chapter 4 - the reader will notice that detailed investigations were conducted as far as the activities of the inhabitants were concerned. This did not concentrate on their contribution as modifiers of the landscape as much as on their social activities that were associated with the general site organisation. For example, the study of ***Adadah*** site (2100-2175 meters ASL Southwest of Abha) conducted on the 15th of July, 1990, showed a settlement located on very steep slopes that lacked the presence of a mosque. This was not the pattern of settlement observed throughout the sites; indeed the mosque is located outside the boundaries of the settlement beside an abandoned group of houses. While in a simple observation this could have been visually dismissed as a deserted group of buildings, interviews with the locals revealed that the site of the mosque was of particular historical significance to the inhabitants and that the physical features of the site (being flat) was reserved for a building with such a religious importance. Knowing that no one would dare to attack the flat land because of the presence of a mosque, the inhabitants choose the steep slopes for their houses for purely defensive reasons.

4- Cultural landscape is influenced by a complex set of social, political, and economic factors. A knowledge in the various fields of ethnology, anthropology, cultural geography, economic, etc., along with their techniques of investigation are required.

Once again, and through the study of non-physical features of the cultural landscape, more vital information was revealed, most of which added more significance to the studied site than detailed empirical studies. For example, in the study of ***al-'Ikas*** site (2400-2500 meters ASL, north of Abah) a number of settlements were observed scattered beyond the boundaries of the original site (as discussed in chapter 4). The new developed area is characterised by larger houses of non-native architectural types, built out of contemporary, non-local material such as reinforced concrete, and red bricks. By utilising the proposed model's evolution analysis of the site, it was found that the drastic change in the inhabitants socio-economic status allowed for the emergence of new social classes (land lords), characterised by their economic independence of agricultural activities. These economic changes were brought about by the concentration of wealth within a minority of the population, foreign culture assimilation and the openness of the once tightly-knit community to the modern development of larger cities. The political changes, since the formation of the Kingdom of Saudi Arabia, further facilitated these changes.

The study of the historical significance of the site also included economical and political analysis, the result of which revealed more explanation concerning the physical development of the site and the recent changes of the settlement pattern , hence the cultural landscape of the region.

5- The study of cultural landscape must be initiated by public awareness of the living history of a certain landscape exposed to negligence or deterioration. The determination of significance needs to be accomplished through viewing the

landscape from a variety of perspectives. Local significance may be greater than regional or national significance because, by virtue of its name, cultural landscape is more closely related or tied to the people who live in it.

This was rather an interesting discovery that was revealed by detailed analysis of the region from the perspective of its inhabitants. For example, during the study of ***Maqhab*** and ***al-'ikas*** sites, all indicators, such as those revealed by visual assessment and historical data, pointed to a fairly gradual evolution of these settlements, and that no dramatic socio-cultural changes took place at any point of time. However, through the interviews conducted with the inhabitants a further layer of social changes was determined. In this case, historical data and physical evidence did not reveal the true side of the story as lived by those who experienced it . The internal organisation of the social structure of these sites experienced a number of alterations that were neither political nor economical, but rather to do with the socio-cultural norms, values and habits of the inhabitants. These gave more significance to particular sites within the settlements and devalued those of others. An example of such sites will be reviewed further in this chapter (the 8th criterion).

6- Any system of evaluation should preferably suggest a proper and fair scientific scoring and rating system, so that at least two evaluations of the same cultural landscape can agree on the system used in evaluation, basis of judgement and criteria of scoring (some non-material components are not quantifiable, yet an introduction of re-rating system by a native of the landscape, or by re-assigning different values to the rating system as a further step might get the results of the evaluation as close as possible to a fair conclusion).

7- Rating and scoring measures should be valid and reliable, while procedures should be consistent to allow presented information to be replicated and generalised.

In the analysis of the cultural landscape of al-Suq - discussed in chapter five, great difficulties were faced in establishing a kind of cultural landscape assessment of a scientific nature without being influenced by a number of unquantifiable variables, such as emotional, religious, and cultural. The fact that the modified Melnick's cultural landscape assessment model presented in chapter five and in this chapter appears to be missing any indications to rating or scoring testifies to this notion. To a great extent, however, it is possible to establish a reasonable and acceptable rating system based on points or scores given to certain qualities of the landscape being assessed. Visual assessment, side by side with the other proposed analysis formulas presented by the model should lead to the emergence of such a rating and scoring system. The fact that the assessment models evaluated in chapter two failed to provide an acceptable scoring system does not diminish their validity as adequate planning tools, nor does it suggest that the emergence of a reasonable scoring system is not achievable. As mentioned in chapter two, the adoption of any rating and scoring system falls outside the scope of this research, because the main aim here is to provide landscape managers and policy makers with an adequate assessment model by which to approach, analyse and determine the various components or elements of any given cultural landscape.

Although the rating of cultural resources has become a popular planning tool, especially with regard to historic architecture, one has to remember that the ultimate objective of an evaluation system is to determine priorities for future management decisions. The rating of any cultural landscape thus remains a dubious undertaking at best. Finally, the principal benefit that the evaluation brings to management is the added ability to prioritise decisions, and to understand the resultant ramifications to the cultural landscape. In management terms, the cultural landscape evaluation provides a basis for making those decisions, and an understanding of the impact they will have within the landscape, all of which are achievable through the application of the proposed model even without providing a scoring system.

8- The study of cultural landscape should focus on both landscape features and on the human side of the landscape, focusing more on people's experience, nature of activity, degree of awareness, social and cultural context, and the purpose to be achieved.

This is a criterion that is related to the above stated discussion (criteria 4 and 5), where most of the emphasis is - rightly so - put upon the socio-cultural side of the landscape being assessed. Large sites of the region of 'Asir, for example, could have been assessed as possessing great cultural landscape values if they were evaluated from a purely physical point of view (i.e., visually assessed). However, some of these areas did not posses any socio-cultural values to the inhabitants, while others were even negatively evaluated by those living in adjacent settlements. Accordingly, if any management policies were set based on these purely physical analyse, the result would have been the conservation of beautiful-looking landscapes that have no meanings to either their dwellers or their visitors as they would lack socio-cultural significance. An example of these areas falls outside the scope of this research but is nonetheless worth mentioning: A very attractive and scenic settlement in the site of ***Al-'Ikas*** was initially evaluated in this research as visually possessing great landscape features (man-made and otherwise). These features included agglomerations of traditional houses that went in harmony with the surrounding natural features of the site. However, these houses were later evaluated by the inhabitants of the site as `backward' and does not represent their current socio-cultural status. It seems clear that no matter what conservation policies were introduced to the area, a great determination by the inhabitants to leave this particular settlement for the more `modern' one right outside the boundaries of the old site would prevail. Educating the people of their heritage or introducing the site as a tourist attraction would help in enhancing the present status of these houses, but it would involve a trial and error process (the result of which could be determined through the application of the proposed model).

9- An assessment model - whether developed in co-operation with environmental agencies or with special interest groups - should be usable by environmental decision makers and managers, as well as the community at large (addressing the interests of both groups).

The conformity of the proposed model to this criterion could not be fully determined because of the absence of organised interest groups. However, individual interest was represented by a number of books[3] that not only studied the various potentials of the landscape of 'Asir, but also promoted the establishment of conservation and protection policies in the region. Governmental efforts of various sorts are now the only instruments capable of providing and implementing such policies. It seems that the model could help both professionals and non-professionals in reaching a valid conclusion as to the potentiality of conserving and managing one site or the other. The simplicity, clarity and directness of applying the site analysis demonstrated in chapter four, assisted in determining the value of various sites.

10- The method should be concerned with theory and application, addresses manipulative attributes and characteristics of landscape.

The model allowed for the analysis of ordinary landscape and a sympathetic look at the places in which people have settled, lived, manipulated, altered, and developed the landscape. Identification and understanding of the cultural landscape as a process that requires many preparatory stages in order to reach the prevalent cultural meaning of the environment was facilitated by this proposed model. Here we find that the identification of the place and its evaluation, required for the preparation of policies for management and conservation `could be applied smoothly, giving direct indicators as to the primary sources of cultural value in the landscape. Three major factors integrated together to form the values of the landscape in question. These are: **Land**, **People**. and **Time**. As mentioned in chapter two, any attempt to identify a given

cultural landscape must allow for the analysis of these three factors, an assumption found by the research to be valid and of vital consequence and amongst the chief merits of this model.

PART II:

Limitations of the Proposed Model

Although historical and visual evaluation are valuable in their own ways, they are bound to suffer from insufficiency when it comes to the evaluation of cultural landscape from a broad point of view. Historical evaluation relies on certain dates, significant events, people, and established periods in history. While these are important facts to take into consideration when evaluating a cultural landscape, they are usually too restrictive and non-representative. Historically minor events may be of more significance to the people living in the landscape and directly effected by these events. Because of its continuity, and because of the strong connections between the notions of space and time, a cultural landscape represents many events in time and space. These involve known and unknown individuals, and may reflect a variety of evolution, alteration and modification stages of a certain locality.

The main limitations, or rather difficulties faced during the implementation of the proposed model can be summarised in the following points:

1- As seen earlier most of the data obtained through the application of the proposed model were based upon visual assessment. However, landscape evaluation based upon perception or visual analysis may be influenced by visual or scenic preference. While this is valuable for planning new areas of potential tourist attractions, it has less applicability when one is attempting to evaluate a landscape from the view point of long-established cultural groups. Visual preference may or may not prove to be a valid

factor in locating certain activities for a cultural group, and may, in fact, have little bearing when trying to understand larger questions of ties to the land and cultural significance of various components as is the case in this research. Accordingly and in an attempt to avoid such misreading, the notion of `scenic values' or preferences has purposely been omitted from this research.

2- Because of its nature as a culturally-sensitive issue, cultural landscape will be saturated with meanings to the people who have settled on, lived in, cared for and modified the land. Because the model allows for the researcher's own value judgement to be involved in the evaluation of certain aspects of the landscape -presumably from a contemporary point of view- some traditional values may be either misinterpreted, or reduced in value and significance. Being conscious of this pitfall throughout the research, it was decided that any attempt to place a value on such local meanings, especially through comparison with other landscape, could negate the importance of the landscape to those who are directly associated with it.

3- This point is again to do with the disadvantages of establishing a rating and scoring system aiming at placing a certain value on certain aspects of the studied landscape. Because a cultural landscape is constantly changing, a rating system today will most likely differ from a system established in the future, in accordance with the continuously changing values, norms and world views of our culture. What could be judged today as a negative aspect that would be unfairly scored, could be seen from tomorrow's perspective as a highly desirable aspect that should be encouraged.

4- A cultural landscape, as recommended by Melnick's model, should be viewed as a whole which is not the sum of its parts[4]. This means giving full consideration to its individual components as well as the relationships between these components. Because culture -by virtue of its nature- is one entity, changing one aspect of it would reflect on the whole package. Any potential rating system would, by necessity, place individual

values on an otherwise wholistic body who's characteristics and qualities are not made of these individual values. While the introduction of a rating system, as suggested earlier, may not be impossible, its overwhelming subjectivity makes it essentially fragile and highly debatable.

5- The last of these limitations is represented by the initial rejections by the inhabitants of foreign or unfamiliar faces, especially in areas were women were at work. This was amongst the culturally-sensitive issues that led to the avoidance of questions of a very private nature just because of the fact that women were present on site. Avoiding such places for conducting the field work inhibited entry into potentially rich cultural landscapes, at times of animal herding (carried out by women), or during the prayer time when the women wander freely over the study area.

Conclusion:

The extent of this research revealed that studying cultural landscapes is a process of recognizing how people use different places to fulfil practical needs of living. This in itself is the first step towards a better understanding and enhancing a sense of place of a given locality. It also reveals that the regional identity is connected with the peculiar characteristics of the landscape in question. Therefore, it is proper to assert that the assessment of cultural landscape has to do with two essential and basic criteria: firstly, it has to do with the natural processes of the locality as far as its natural characteristics are concerned; secondly, it has to do with the social processes, as far as the input of people on the land is concerned. This would require - as discussed throughout the research - a detailed analysis of the way people adapt to their living environment; how they change it to suit their needs; and how they manipulate and modify the land to make it their own. The result is a clear understanding of the particular identity of the cultural landscape of a particular region, its people and the process through which a strong link between people and the land is achieved. The aim

of the latter is to reflect the collective reaction of people to their environment through the course of time.

Gaining from the knowledge obtained from this study of the cultural landscape of 'Asir, it is realised that to begin any assessment exercise, one must seek out the essential characteristics of that place by wandering through it, preferably on foot, meet with the inhabitants, and read something about the background of the place in order to understand its patterns of movement, its social dynamics, history and traditions, its environmental possibilities. As discussed in chapter one, any attempts to evaluate, assess, develop, or establish any sort of planning guide-lines for conservation and protection of a given cultural landscape, one must begin with a prepared tour of the place as it was the case in this study. This tour would allow for the discovery of time-old historical evidence of a physical or social environment comprising the cultural landscape in question, for even if a place's identity is destroyed, there are always elements of the original landscape that remain. One must remember that one's task as a cultural landscape manager, policy maker, an interested agency, or a landscape architect remains to be that of trying to identity the cultural landscape in question based on all possible environmental clues.

As discussed in chapter one, designing for people in accordance with what designers themselves think or perceive of certain cultural groups is not the best way to approach cultural landscape conservation and protection problems. This will only help in creating a landscape that does little to reflect the inherent social diversity of a given locality. Many of our urban parks today represent cultural landscape models that are imposed on our cities by this tradition of standard landscapes for standard people. The quality of urban life today has to do, among other things, with the recognition that diverse social groups need diverse landscapes, that choices between one place and another must be available. The identity of the urban or rural cultural landscape is based on physical spaces that are controlled by the government. However the identity of the

cultural landscape is based on its physical and socio-cultural nature and how people manipulate these to reflect the cultural and physical identity of particular groups.

Maintaining a sense of history within a given landscape is another factor that has to be present in the process of the assessment. A researcher, designer, manager or a policy maker does not have to create a place anew. He will most likely find himself drawing from rich historical and cultural resources that are particular to that place and indigenous to it. Design by nature inevitably involves building on what is there on the landscape. However, the protection of the natural and cultural history lies at the heart of maintaining a continuous link with the past traditions of the landscape and with its natural and original identity.

For the inhabitants of a particular cultural landscape to gain an awareness of their heritage is another vital task that must be undertaken by policy makers and landscape managers. Environmental literacy lies at the heart of understanding the places with which we are familiar, and thus at the heart of the issue of identity. It is necessary for people who live in and use these places, indeed places of any kind, to know the potential value of the environment around them. An awareness of place can only be enhanced when it becomes a part of people's everyday lives which lend places and people, objects and artifacts, their meanings. Throughout the analysis of the case-studies places observed were changing radically; people are more than willing to give up everything that their forebears have achieved in the past five or six hundred years. There is a very real fear that no governmental or other agency can succeed in conserving the heritage of the 'Asir region without first enabling the inhabitants themselves to be interested in their own history, their own culture. Incentives and rewards must be established for those who are willing to protect their traditional farms, houses and, above all, their culture.

Furthermore, the greatest diversity and identity in a place often comes from minimum, not maximum interference. This does not mean that governmental planning and design agencies are irrelevant or unnecessary to a world that if left alone would take care of itself. It implies, rather, that change can be brought about - as proposed in this research - by giving direction, by taking advantage of the opportunities that site or social trends reveal, or by setting a framework from which people can create their own social and physical environments and where landscapes can flourish with diversity, and beauty.

Finally, and discussed in the analysis of the case-studies of 'Asir, future generations will have to face the prospect of seeing and knowing little or nothing of the way in which the land of 'Asir was used by their forebears. There is little doubt that the changing cultural landscape of 'Asir will continue to change and be altered, that it would be infantile, unrealistic and impractical to suggest that everything old is also good, and that all change must be stopped. On the other hand, one cannot say that what is happening in 'Asir today is acceptable, and because we have the technology today to develop, this should not be associated with either a spirit to deny the past, or an attempt to recreate or imitate it superficially.

[1]Melnick, Robert Z. Cultural Landscape: Rural Historic Districts in the National Park System, A report developed for the US National Park Services, Department of the Interior, Washington, D.C., 1984.

[2] Philby, John H. Arabian Highlands. Cornell University Press: New York, 1952.

[3] An example of these books would be the following publications: Al-Alma'ai, Muhammad Hassan. Al Nabat Fi A'sir, (Arabic), Abha: Literature Society, Abha, 1982; Al-Saud, Noura bint Muhammad, Al-Jawharah M. Al-Anqari and M. Al-'Ajroush. Abha, Riyadh: Al-Saud, Al-Anqari,and Al-'Ajroush, 1989; Hamzah, Fuad. "Fi Bilad A'sir", (Arabic), Second Edition, Riyadh: Abdulah and Muhammed Al- Rashid, 1968; National Commission for Wildlife Conservation and Development (NCWCD). Wildlife Conservation and Development in Saudia Arabia, Proceeding of the First Symposium, Edited by Abdulaziz H. Abu-Zinada, Paul D. Goriup and Iyad A. Nader, Riyadh: Publication No. 3, February, 1987; Shaker, Mahmood. Arabian Peninsula (A'sir), (Arabic), Third Edition, Beirut: The Islamic office, 1981; Yoness, Siad Ahmed. Lamahat min Tareegh A'sir Alkhadeem, (Arabic), Abha: Abha Literature Society, 1982.

[4] The evaluation of a cultural landscape is similar to the evaluation of significant historical structures. They all begin with the selection of criteria, proceed to the application of those criteria to the site or building, and conclude with a determination of relative significance. The major difference between these two however, is that the landscape would first be evaluated as a whole, and then each component of the landscape would be evaluated for its contribution to this whole, as well as for its own significance.

APPENDIX A

The initial stage of this research required the application of Melnick's model of cultural landscape assessment on a selected slide of the prospect case study area. The aim of this experiment was to establish a preliminary idea of the suitability of Melnick's model, particular the stage of "capturing the cultural landscape," for the assessment of cultural landscape sites different from those originally studied by the model. It also aimed at getting the feeling of how close can reasonable results be obtained by applying the model with some modifications to suite the intended context and purpose.

The following is a demonstration of this experiment:

Elements of establishing the general characteristics of a cultural landscape as proposed by Melnick's method of capturing the cultural landscape:

Identification:

1- Land use

- Agriculture
- Grazing
- Terraces
- tree alignment
- Alteration in the view level (Topography)

2- Structure

- Nature, for example, terraces introduced to the sit (long time ago) to allow larger vegetation areas by reducing the slop of mountains. This represent one of the displays of the human impact on the area.

3- Cultural connection

- Agricultural society (cultivation, Herding, and Grazing) in order to provide their daily living needs.
- The landscape characteristics of the area are distinctively an identity of the southern area of the Kingdom and in particular the 'Asir Region (terraces, green areas, types of vegetation that is characteristic of the climate of this region.

Evaluation:

1- History of 'Asir Region

Observing the slide, and after having identified the site, the following criteria that could be suitable for it's evaluation:

* What are the major resources in the past or the reasons for using this land in this particular from and the reasons behind it's continuity from generation to generation?

* Dose this example explain the method of using this particular site? Is it the most adequate way of treatment and adaptation that could be applied globally?

* What are the possible ways to collect information about the site? Documents regarding the organization of the landscape:

_ Photographs

_ Drawings

_ Oral history (interview)

- What type of change occurred to this site in time? There are two types of changes that require investigation:

_ Evolutionary change (Societies)

_ Drastic change (Developers)

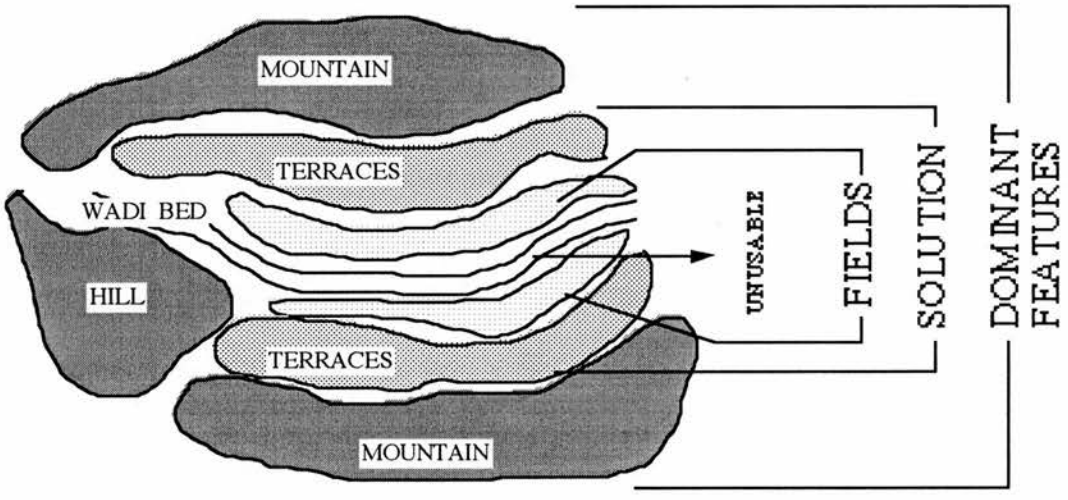
2- Visual Assessment

The following is the sequence of steps to visually-assess the cultural landscape of the area based on the information provided by one slide only (figure **1**). This stage was totally based on Melnick's procedure:

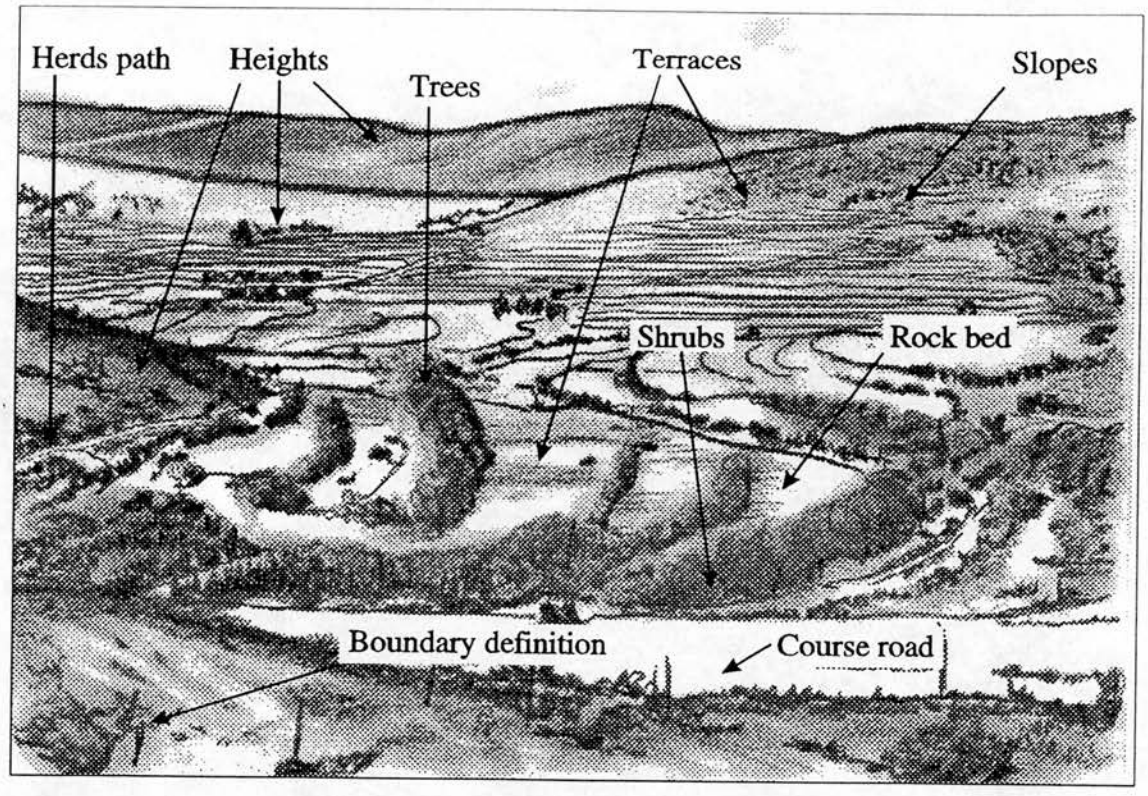
(Figure A-1) A randomly-selected slide that was taken from the case study area for the purpose of testing Melnick's visual assessment methodology.

A- Present Condition:

Note that in this initial stage - supported only by what a selected slide could reveal - there were no historical data available to support any assessment. Therefore, the following description was solely based on the visual information provided by the slide. A general look at the area indicates, for example, that agriculture activities are dominant in the area, in contrast with the presence of some kind of tourist attractions where no evidence of that is seen on the slide (figure **A-2**).



(Figure A-2). A diagrammatic analyses of the major visual elements of the selected site.



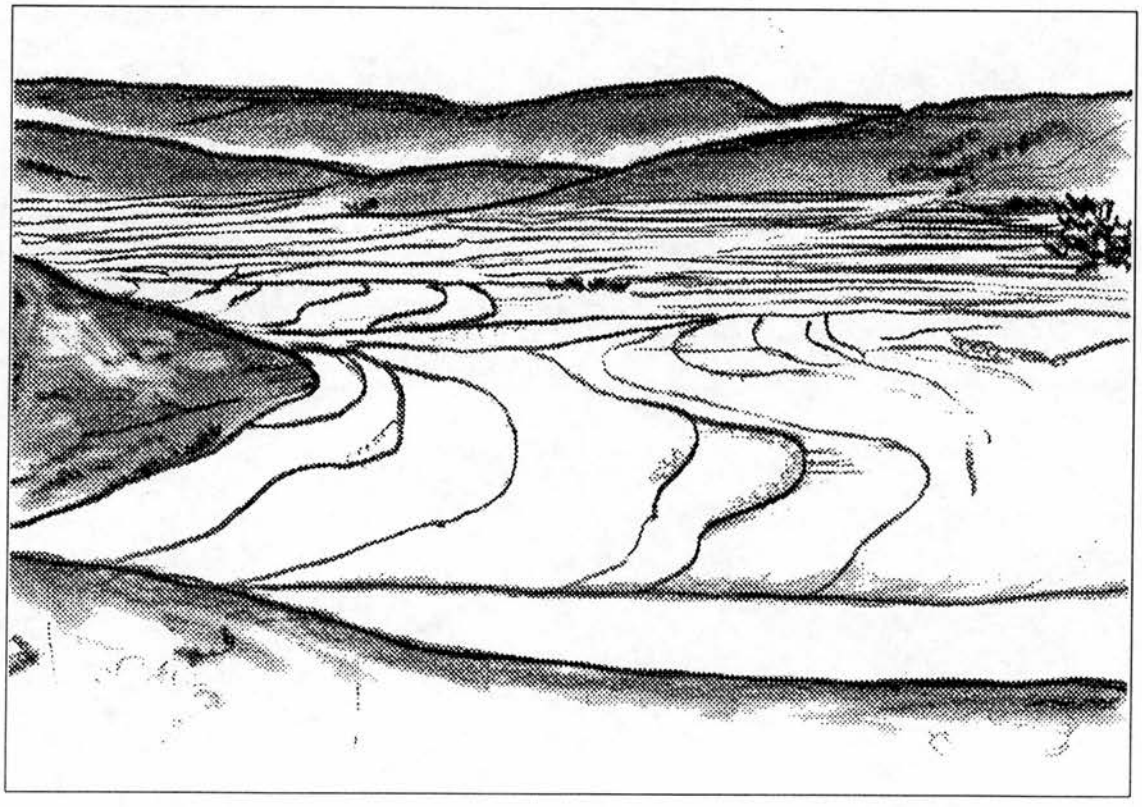
(Figure A-3) A preliminary sketch is drawn and major visual elements of the selected site are located on it.

By analysing the data of landscape elements provided by the slide, one can conclude with a number of observations such as: (figure **3**)

- It is obvious that the mountain edges decided the sky line.
- Glens are distributed all over the area.
- Grazing animals made their own tracks.
- It is clear that, it is an agricultural area that belongs to a rural district.
- Trees are used to define areas of personal properties (especially on terraces).
- Terraces are created to reduce mountain slops and increase the cultivable area.
- Two road categories: Herding path and course natural road.

Based on these information, the slide represents an agricultural land, with man-made interference in the form of terraces and trees plantations. It also indicates a rural settlement somewhere near the cultivation area, with free moving grazing animals, leaving their marks on the mountain as rough tracks and paths.

B- Landscape Form: (figure **A-4**)



(Figure A-4) Selecting the major visual features of the site (Form).

Aspect of the land (Topography)

1- **Mountains;**

- The area is not a flat terrain or a wadi bed, it is part of a mountain chain running across this particular region. Although the density of mountains decrease the chance of existing valleys and availability of glens.

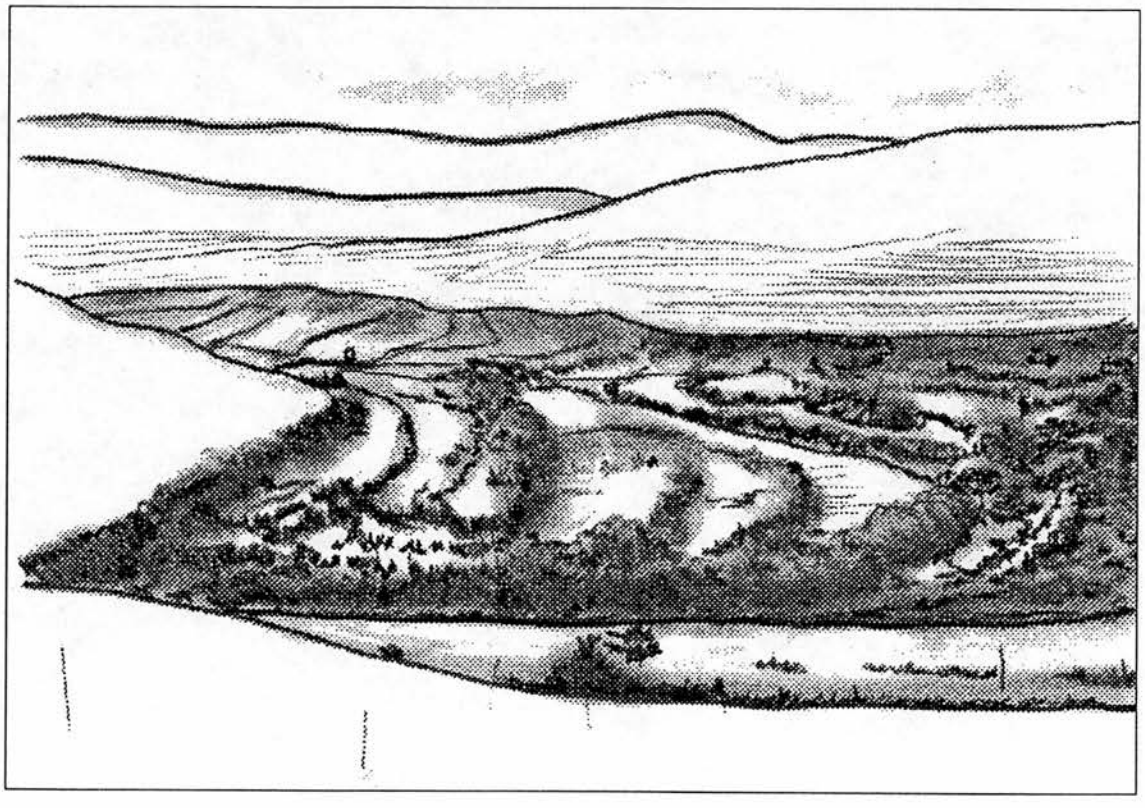
- The mountain chain is visually defining and enclosing the area, they represent a limit to the visual cone.

- Variation of heights and slope percentages add to the depth of the fields of vision and the richness of the view, but it limits movement and accessibility to the area by means of tracks between mountains. Moreover, these mountains decrease the area of land suitable for cultivation and grazing.

2- **Glens (streams);**

These represent a major element for water collection, as well as being the source of increasing vegetation (this also allows the emergence of grazing areas).

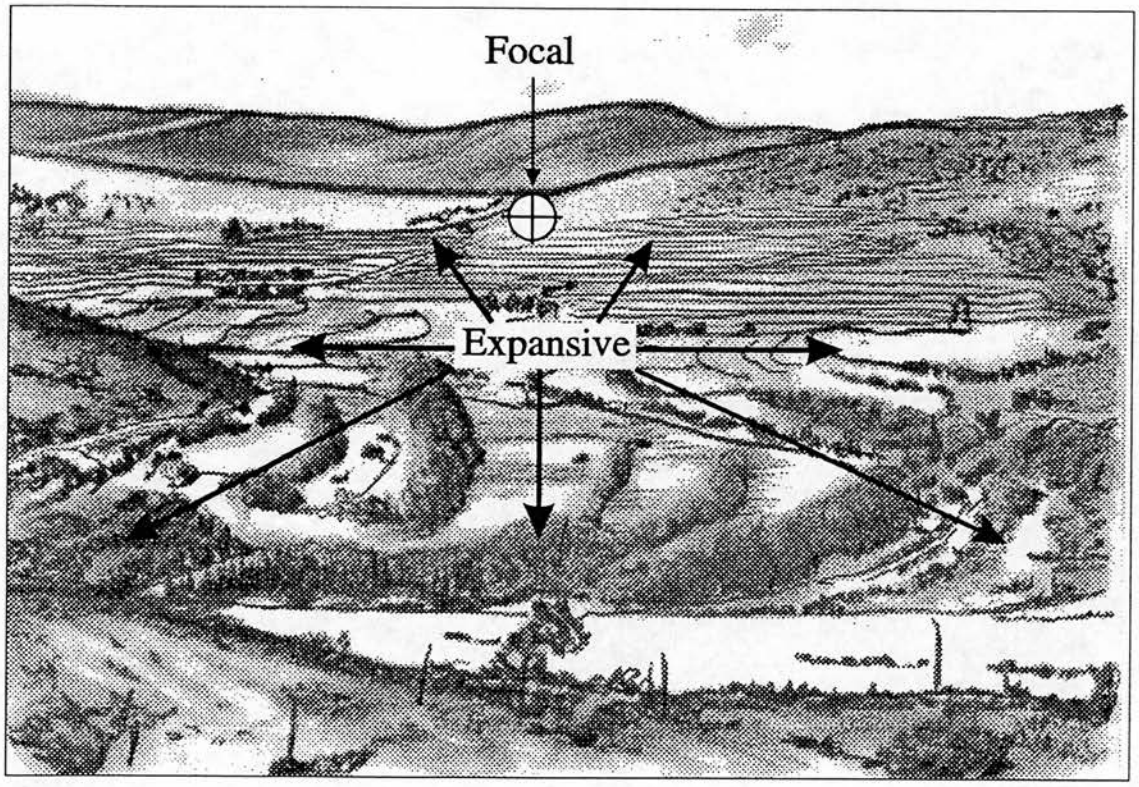
C- Spaces: (figure **A-5**)



(Figure A-5) Man-made terraces represent a clear definition of spaces within the site.

The density of mountains reduced to a minimum flat area, and thus reducing the plantation area. Therefore, terraces are the best treatment of cultivatable land aimed at increasing the shortage of agricultural lands. It also decreased the slops of mountains to make available green areas for both vegetation and grazing.

D- Type of landscape: (figure **A-6**)

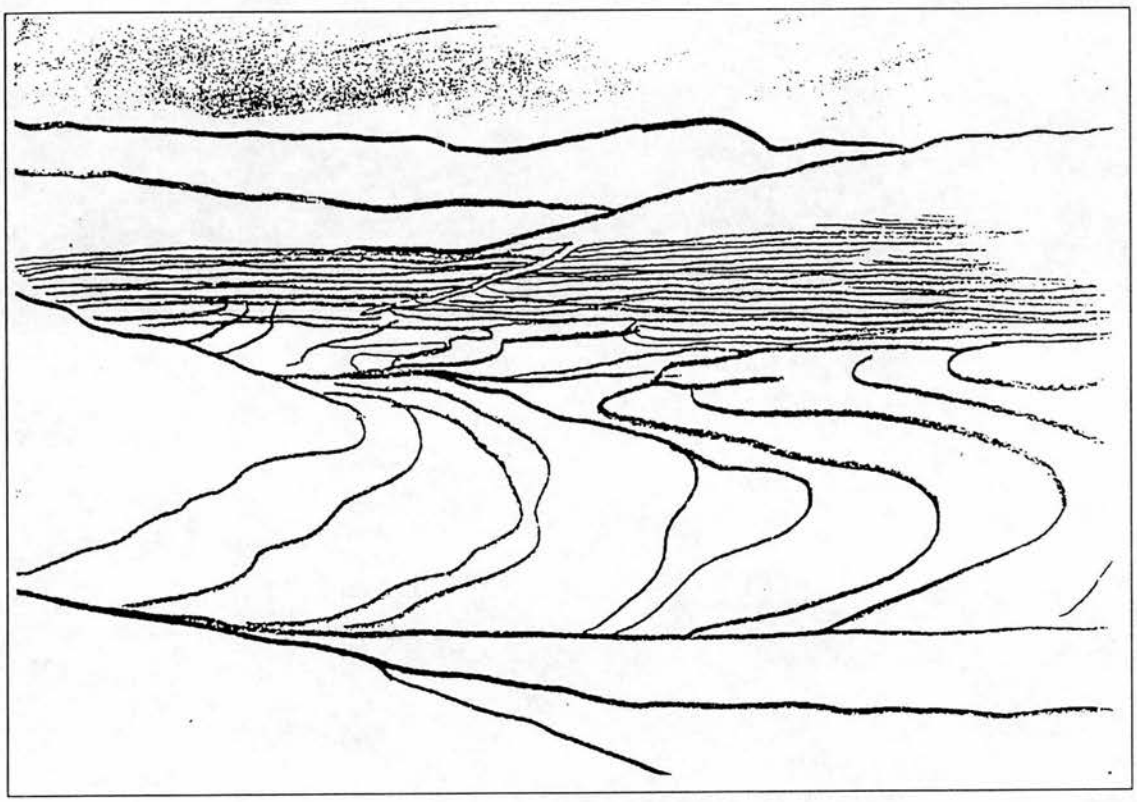


(Figure A-6) Expansive landscape.

From the analytical sketch based on the slide, we can conclude that:

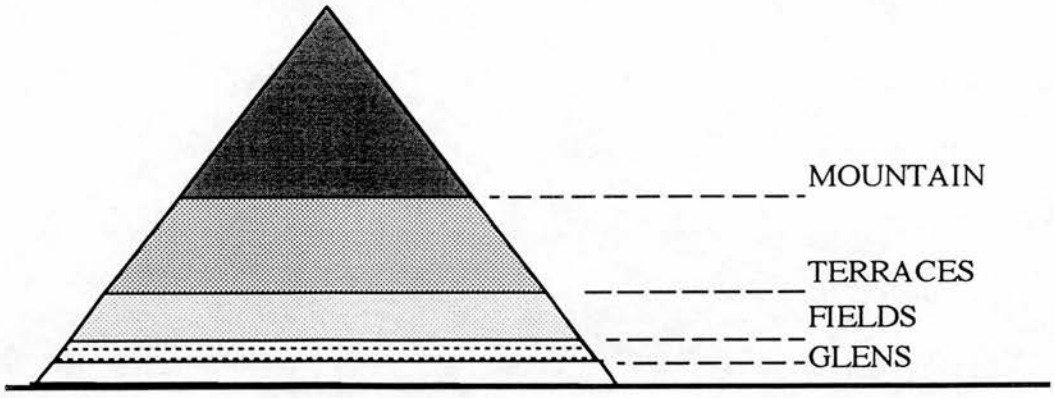
- The position of the eye tends to be attracted by the spot where mountains slopes meet within the terrain (wadi bed) on the background of the slide.
- Man-mad terraces, flat terrains enclosed by the mountain -on the background- and the standing point of vision exaggerates the vastness of the green area, thus the landscape appears expansive.

E- Unity: (figure **A-7**)



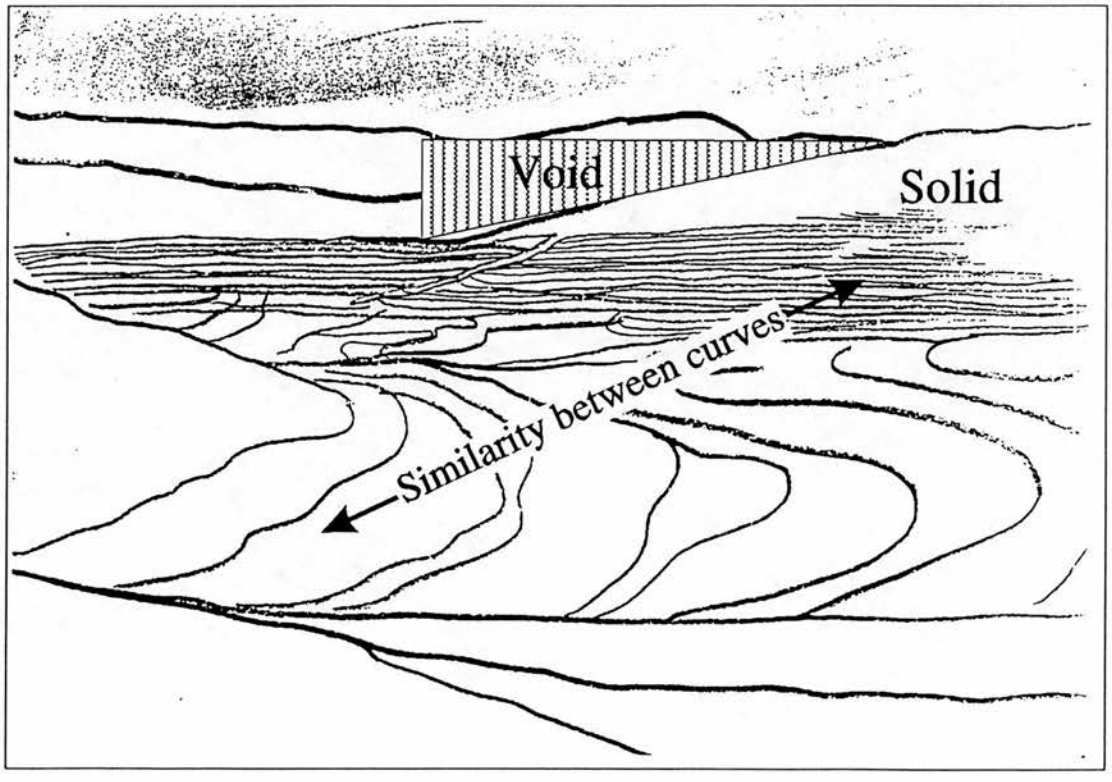
(Figure A-7) The contour lines of the site, whether natual or man-made tends to visuall tie the visual features of the site together, providing a simple visual unity.

- The analytical diagram made from the slide indicates a clear unity between the elements and components of this area (i.e. Mountains, Terraces, and Terrain).
- The harmony of curves and the slops along with the man-mad features are characteristics of most mountain areas of the Kingdom of Saudi Arabia.
- The view also point to distinctive hierarchy of elements, including man-made terraces- in such a way that gives the impression of naturally-ordered site (figure **A-8**).



(Figure A-8) Hierarchy of visual elements.

F- Vividness, similarity and contrast: (figure **A-9**)

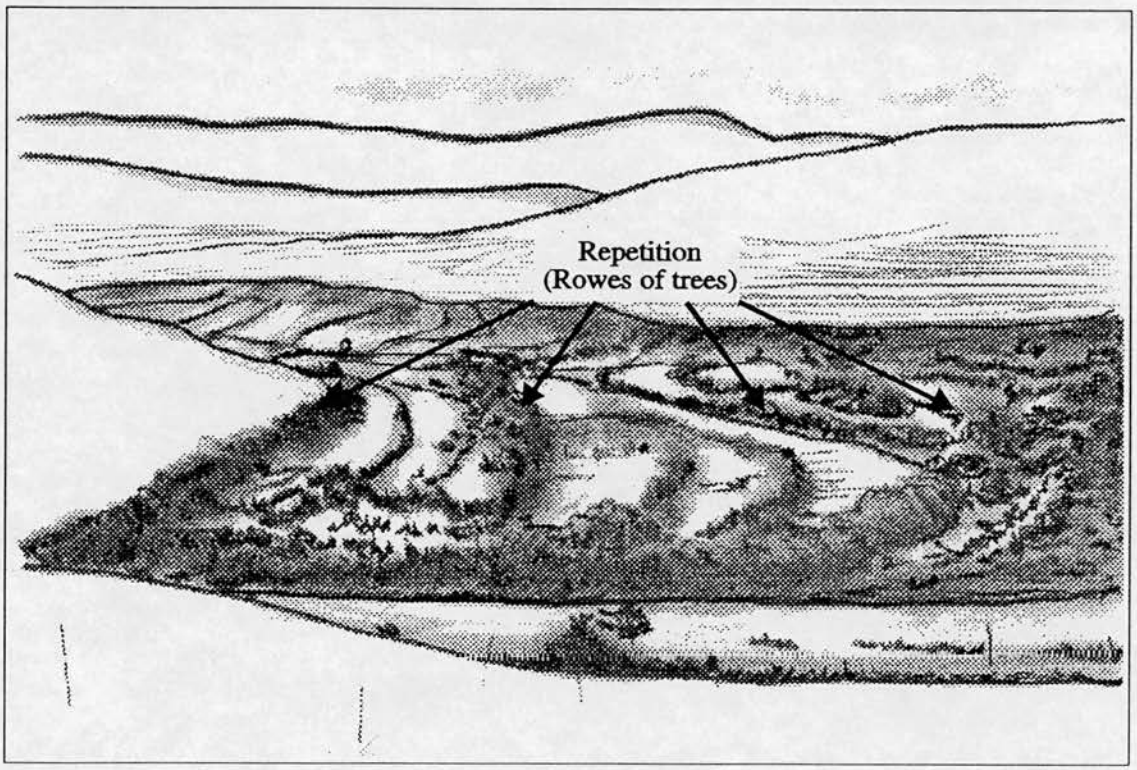


(Figure A-9) The solids and voids (mountains and wadis) provides a strong visual contrast.

The only points of similarity between the components and elements of this particular landscape are the slops, terraces, and the terrain. While the points of contrast

would be the solids and voids formed by the mountain slopes appearing to the background of the slide. The voids are represented by the space between the mountains.

G- Variety: (figure **A-10**)



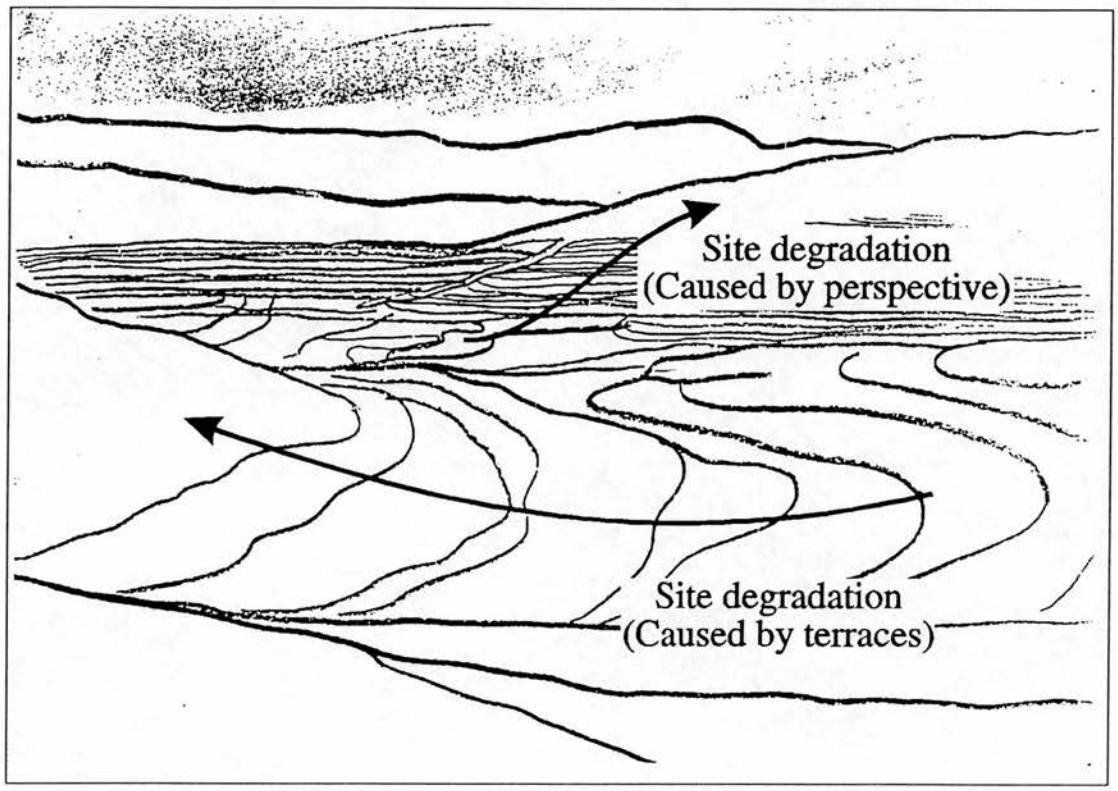
(Figure A-10) The clear differece between natural and man-made vegetation and contour lines provides the site with visually-varied features.

1- Repetition: The lines of trees, rocks and shrubs - used by the inhabitants to define properties and keep the water on the terraces - tends to exaggerate the repetition of the terrace edges throughout the area.

2- Size gradation: From the slide one can be visually detect two types of size gradations as shown in (figure **A-11**).

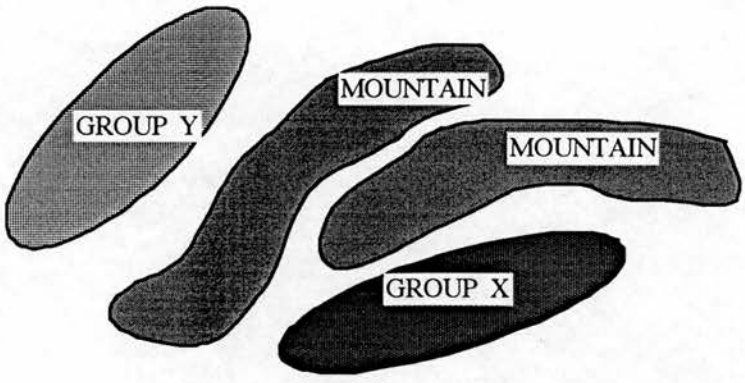
- A visual illusion caused by the perspective image of slopes and terraces on the back drop of the view.

- Physical ground caused by the slope percentage of the mountain. The terraces become narrower as the height of the mountain increases (slopes percentage increases).



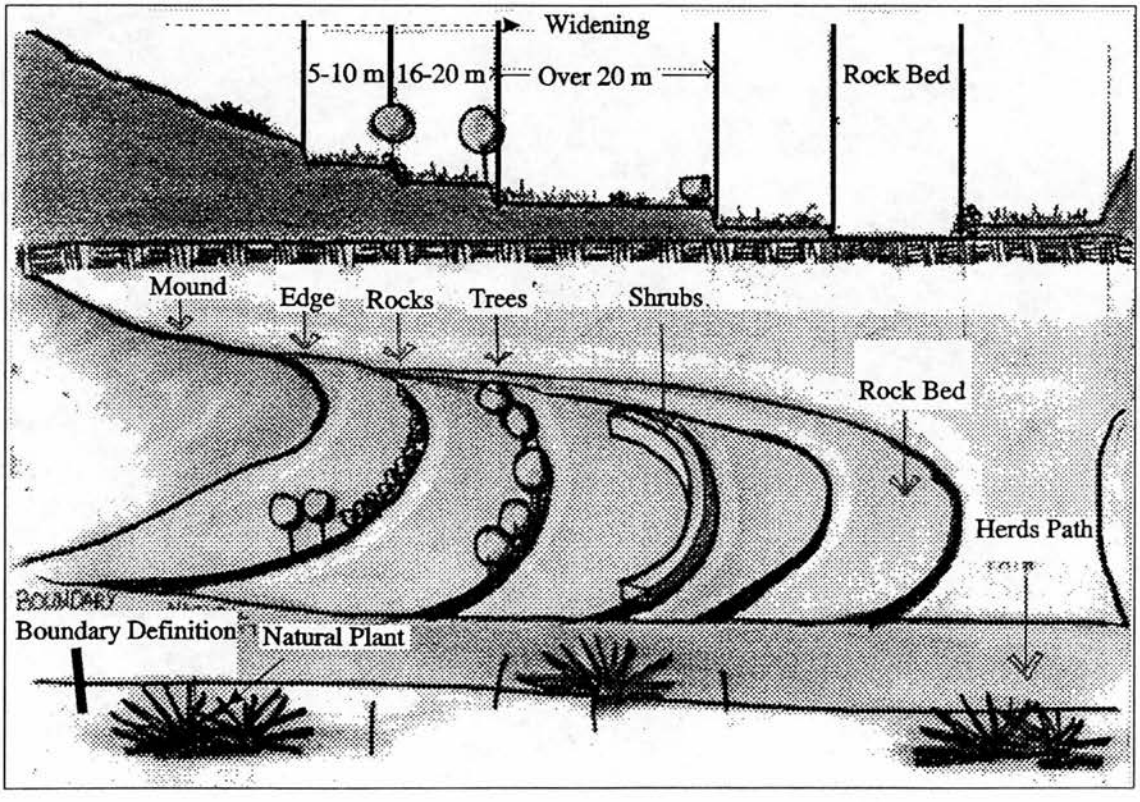
(Figure A-11)

3- Segregation: Ownership boundary definition (e.g., between village or group Y and group X) represented lines of trees, shrubs and rocks (They also define territories of grazing areas). Meanwhile mountains are natural means of segregating different social groups within the area (on a regional scale) as shown by (figure **A-12**).



(Figure 12) Natural boundary definition.

H- Details: (figure **A-13**)



(Figure A-13) Once the major visual elements were defined, simple visual details tends to take special emphasis and enhances the understanding of the overall picture.

1- Type of vegetation adopted by the natives, along with the natural plantation and man-mad terraces provide a great variety of visual elements within a coherent visual

unity. Moreover, the combination of sticks, rocks, trees and shrubs -used to define properties lines a grazing area- are seen as natural elements that add to the unity of the landscape.

2- The clarity of the landscape is made obvious by the simple hierarchy of natural and man-mad elements.

Summary:-

Such a simple task -as the visual assessment of the landscape of this particular area represented by the slide- indicated that Melnick's visual analysis technique is a valid planing tool for evaluating a landscape. It allows the detection of the visual elements that give the land it's characteristics without the need for intensive investigation and data collection stages (e.g., historical background and socio-cultural structure of the area). I think that if all the factors provided by Melnick's analysis were involved in a study of an area that we know something about it's history, it's people and it's function, one can adequately reach a clear and valid assessment of that area.

APPENDIX B

FIELD WORK METHODOLOGY AND PROCEDURES

Tests of the application of the Melnick's modified landscape assessment model (proposed by this research) were carried out in the fieldwork at this stage, three major stages were followed in order to satisfy the proposed process of assessment of the cultural landscape of the southern region of the Kingdom of Saudi Arabia. The first stage of this field work was to chose potential sites to be evaluated. These sites were chosen in such a way that they covered the three major land- uses and forms of the selected case studies - as discussed in chapter 4. These were developed areas (e.g., ***al-Suq***) , rural areas (e.g., ***al-'Ikas***), and protected areas (e.g., ***al-Qar'aa***).

The second stage was to collect information about these sites, mainly regarding location of settlements, their historical and cultural backgrounds (through the collection of available governmental documents, personal photographs, or oral history collected through on site interviews). The third stage was the visual assessment analysis as proposed by the modified evaluation model. The visual assessment of the cultural landscape of these sites consisted of three major phases. The site analysis format sheet as proposed by the Countryside Commission was adopted at this stage. This was designed as follows:

The first phase:

Project: Surveyor:

Date: Time: Weather conditions:

Viewpoint: Direction of the view:

Description: General Impression

Any Significant Impact:

Dominance Elements:

Form

Line

Colour

Texture

Dominance Principles:

Contrast

Sequence

Convergence

Axis

Codominance

Enframement

Variable Factors:

Motion

Light

Atmospheric Condition

Season

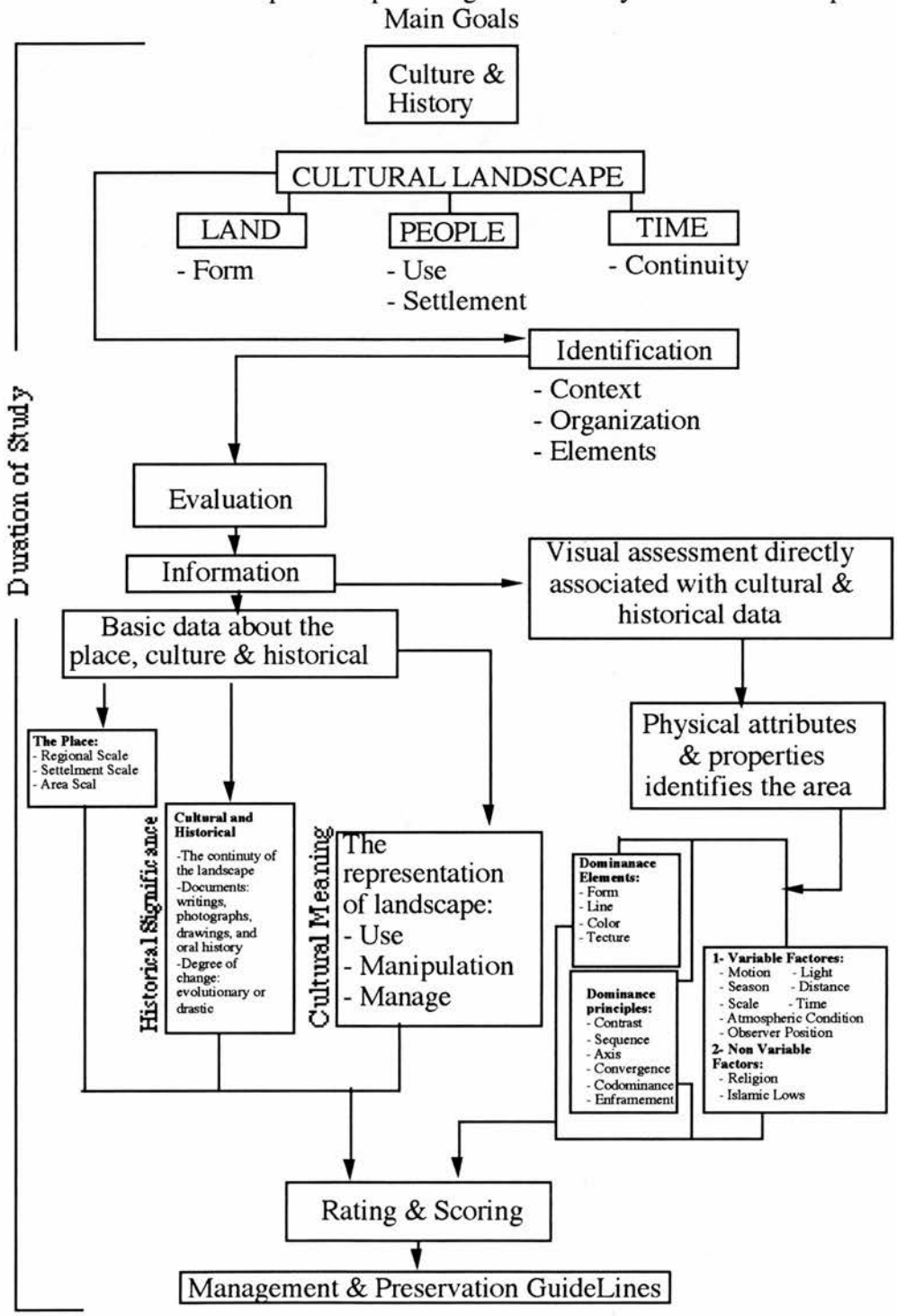
Distance

Observer Position

Scale

Time

The following figure represent the first attempts of modifying Melnick's landscape assessment, which included most of the major stages of other landscape assessment model (discussed in chapter two). Please note that this was the actual model used as a reminder of the required steps during the site analysis of the field trip:



Proposed Modifications of Melnick's Evaluation Model

The following is a representation of the actual work sheets used during the filed trip, and in the analysis of the al-Suq area in particular. The data used in this research were extracted from similar work sheets from all the case-studies, and were used later to add supportive information to sketches and photographs:

Project: Al-Suq Site Surveyor: Ali Atwah

Date: 14-7-1990 Time: Weather: Summer C Blazing moderate, rain in the afternoon.)

Viewpoint: Variable (see notes in the following sheets) Direction of the view: also variable :- two sites so far Looking towards East & north east (Road behind me.)

Description: General Impression

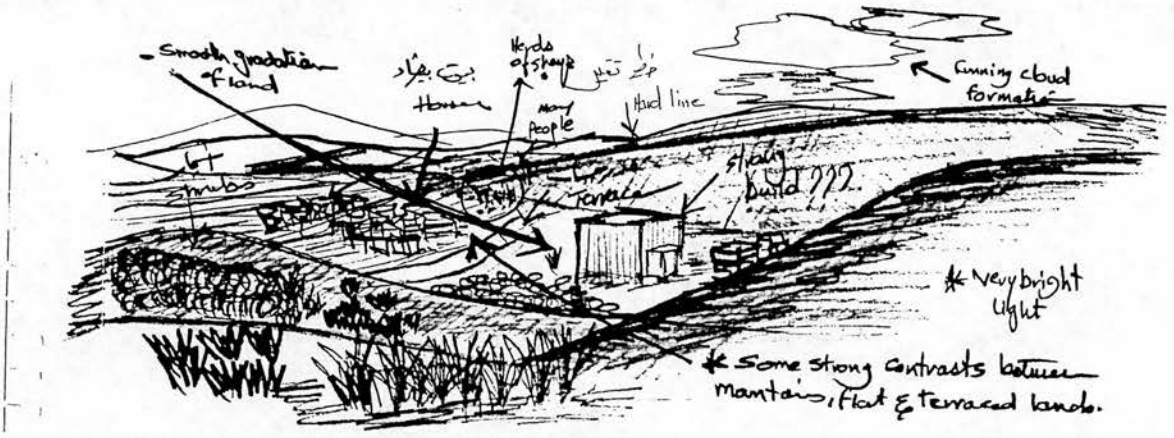
- Looks like the whole place has been modified by man. These man-made terraces are reshaping the sights of almost every mountain slopes. Competing with the hands of man are the natural trees and shrubs which seems to creep into almost every feature of this place (called ʃʃ or 'Ar'Ar).
- cloud formation of white cottony shapes against a dark blue sky & extensive green Lands seems to be part & parcel of the landscape.
- Seems like an abrupt change took place in many areas of the site which seems to be dramatically altered by modern buildings & farming equipment.

Any Significant Impact:

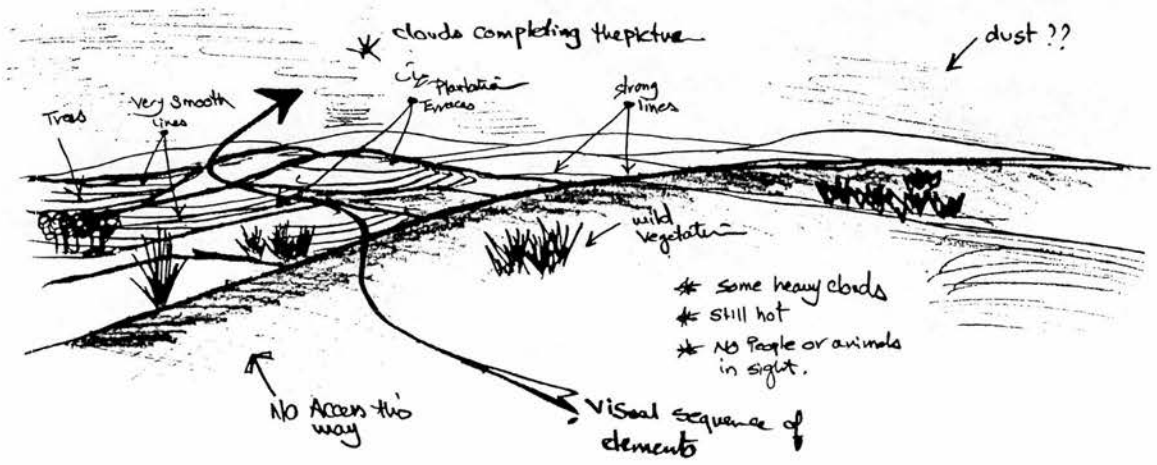
- I think I should be asking any one from the small village besides the small white mosque (photo 36) about the abandoned houses on the left hand side of the forth observation point (sheet 36i).
- Why are there strong looking concrete buildings in the model of the traditional houses? (very few authentic Asiryy houses, the rest are ~~of~~ traditionalized to modern one)
- What is the local name of the winding streams? How important to the locals is this stream?
- strong Coverment ~~influence~~ influence in here, a large number of trucks & official vehicles are quite noticible.
- Elderly population is dominat: seams like most of the yanger people left their home villages.

Dominance Elements:

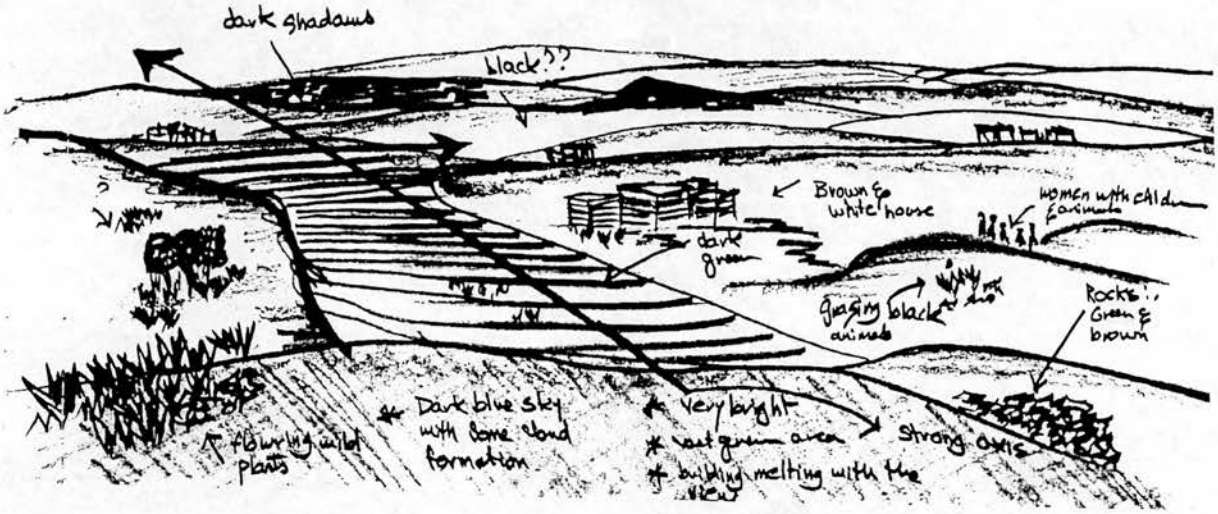
Form



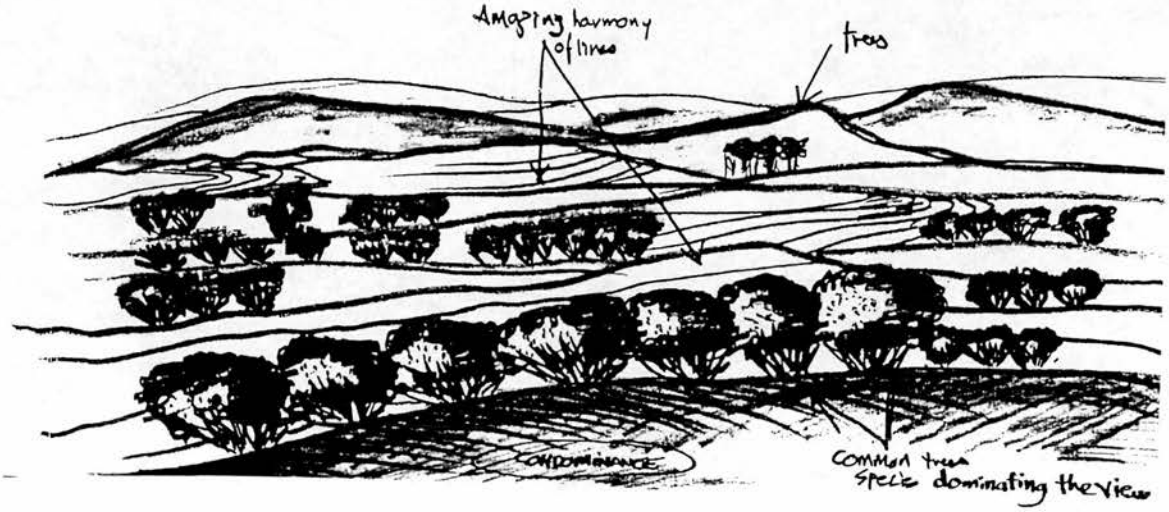
Line



Colour



Texture



Dominance Principles:

Contrast

- most of what I thought as contrasting elements was included in the sketches
- Solids & voids seems to me like the major contrasting elements of this site.
- Hard lines of the skyline & softer smaller lines represented by the contour of the man-made terraces are anther attractive & dominating visual element.

Sequence

- Photographs & sketches should show the amazing sequence of these visual elements of the site like & rows of wild shrubs leading To a gap between two large hills.
- Some lines I feel that the movement of women with their children to & from the terraced areas seems to form & line (Black dotted line) from the white & behind houses to the green silo!!

Convergence

- A distintive Hill, almost freestanding in the centre of many observations points represented a convergence visual element. By creating a dramatic focal point, it seem to all altered the cone of vision Towards it, its green slopes & centering the by deviding it into two separate physical entities.

Axis

- The smooth & upgrading contour lines of the man-made terraces Leading the eye from the low lands to the high Land, Penatrating through this solid mountain formation creating an unescapable visual axis. I should show this in a sketch as will as in a photographs.
- Some Land formation in this site are so dramatic that axis cutting through them does not need an expert to be Locate.

Codominance

- A common type of natural vege. & a dark variety of green plants, dotted with colourfull variation seem To establish a character for most of observed site of this area.
- I think houses too are potential of visual codominance to these plantion, especially when available in Large agglomerations like this one.

Enframement

- only this that observed (Photo to 3) could represent this visual elemt: this was the sight of two large blackish green mountains engulfing a small settlement with a few houses & animal sheds. Looking through the car window, I thought that the body of this, is causing this visual effect.

- only a second Look from a closer observation point revealed the beauty of this place.

Variable Factors:

Motion

- Restricted use of a vehicle in most Parts of the site. Unpaved roads Led to the most interesting parts, especially man-mad terraces & local activities.

Light

- For quite several houses, Light seems to be flooding an array of sites, Presenting some nice visual effect at times.
- site observations are sufficant in morning hours (Light conditions)
- sun angle effected observation through photo but sketching solved part of this problem.

Atmospheric Condition

- Large cloude formation seems to decrease the impact of the sun, especially afternon.
- In genreral, mornings are much & moderate ~~Hots~~ than evenings.

Season

Sumer : Moderate to stight cold, mornings & afternons, but temp. arround (25 - 35c)

Distance • about 13K from ABHA

- Varying distanace are considered. I thing the main factor here is the proximity of the road to potential observation points. • In many cases, I would say from as close as 10 meters to about 200 meters from potential Landscape elements.

Observer Position

- High Grounds over Looking & plantation areas.
- A radious of about 360 degrees. The road is always behind the observation points.
- Several observation point, are needed to get closer Look at activities, houses & plantation

---

Scale

- I would classify the scale of most sites observed so far as intimate. Photographs or sketch would explain the reasons behind this classification.
- Although some mountains, artificially sloped seem Larger than life itself. But again because of the artificail slopes, their scale & domination are greatly softered & reduced to an intimate scale.

Time

- Time of the observation so far range mid morrning and mid afternoon (10.00 2:00)
- This seams like a convenient time allocation for observation as a number of activities by the back villages take place within the different parts of the site
- To aviod the rainny summer in the afternoon.
- Early observation (from 7:00 am) didnot Prove to be worthwhile as most activities at this time are monotonous (Fields).

BIBLIOGRAPHY

A'siree, A. A. A.. A'sir: From 1833- 1872, Abha: Abha literature society, 1987.

Abdulfattah, Kamal. Mountain Farmer and Fellah in 'Asir Southwest Saudi Arabia, aku-Fotodruck, Bamberg: Erlangen,1981.

Abulfatih, Hussain Ali. Wild Plants from Abha and the Surrounding Areas, Jeddah: Saudi Publishing and Distributing House, 1984.

Abu-Zinada, Abdulaziz H., Paul D. Goriup and Iyad A. Nader (ed), Wildlife Conservation and Development in Saudi Arabia, Riyadh: February, 1987. NCWCD: Riyadh, 1989, *Passim.*

Al-Alma'ai, Mohammad Hassan. Al Nabat Fi 'Asir, (Arabic), Abha: Literature Society, Abha, 1982.

Al-Saud, Noura bint Muhammad, Al-Jawharah M. Al-Anqari and M. Al-'Ajroush. Abha, Riyadh: Al-Saud, Al-Anqari, and Al-'Ajroush, 1989.

Annual Report (1406 AH) (Ministry of Agriculture and Water), 'Asir Management of Agriculture and Water, (Arabic) [n.p./n.d]. *Passim.*

Bechtel, Robert B., Robert W. Marans, and William Michelson. "Landscape Assessment and Perception Research Methods" in Method in Environmental and Behavioral Research, Edited by G. Jonathan Taylor, Ervin Zube, and James Sell, New York: Van Nostrand Reinhold Co., 1987.

Colvin, Brenda. Land and Landscape, (second edition), London: John Murray, 1970.

Countryside Commission Approach. Landscape Assessment, Cheltenham: 1987.

Countryside Commission News:

* Countryside Commission News, No. 49, May/Jun 1991;

* Countryside Commission News, No. 50, Jul/Aug 1991;

* Countryside Commission News Release, June 29-1992;

* The Newspaper of the Countryside Commission, No. 51, Sep/Oct 1991;

* The Newspaper of the Countryside Commission, No. 53, Jan/ Feb 1992;

* The Newspaper of the Countryside Commission, No. 55, May/Jun 1992.

Countryside Commission reports:

* Advisory notes on national park plans, 1974 (CCP 81);

* Landscape Agreements, September 1975 (CCP-61);

* Note of the Countryside Commission's views on the Consultative Document on Forestry Policy, published 28 June 1972;

* The Bollin Valley: A Study of Land Management in the Urban Fringe, 1976 (CCP 97);

* The Lake District Upland Management Experiment, 1969-76 (CCP 93);

* The Management of Grassland and Heathland in Country Parks, 1977 (CCP 105);

* 1975 (CCP 61).

Countryside Commission for Scotland reports:

* A Policy for Country Parks, Information Sheet No. 4, 1973;

* A Policy for Regional Parks in Scotland, 1989;

* Countryside Grants, To Private and Voluntary Bodies, Individuals, and Public Bodies other than Local Authorities, 1982;

* Management Plans for Country Parks, 1984;

* Skiing at Cairngorn, a policy paper, 1989.

Countryside Stewardship An Outline, 1991-1992.

Edmund, C., Penning Rowsell, and David Lowenthal. Landscape Meanings and Values, London: Allen and Unwin, 1986.

Environmentally Sensitive Areas. First Report. MAFF: England, 1989.

Farsi, Zaki M. A. National Guide and Atlas of the Kingdom of Saudi Arabia, Jeddah, Saudi Arabia: Farsi Publications, 1989.

----------, Map and Guide of Abha and Khamis. Jeddah, Saudi Arabia: Farsi Publications, 1989.

Haidar, Ahmad Muhammad. Agricultural Geography of the 'Asir Region., (Arabic), Abha: Abha Literature Society, 1987.

Hamzah, Fuad. "Fi Bilad 'Asir", (Arabic), Second Edition, Riyadh: Abdulah and Mohammed Al- Rashid, 1968.

Hebblethwait, R. L.. "Landscape Assessment and Cassification Techniques", in Land Use and Landscape Planning, Edited by Derek Lovejoy, Great Britain: The Pitman Press, 1973.

Horbrough, Patrick. Recreation Projects in Saudi Arabia. Al-Benna, vol. 6: 35. June-July, Jeddah, Saudi Arabia, 1987. 2-17.

Hough, Michael. City Form and Natural Process, London: Routledge, 1989.

----------. "The Cultural Landscape: Regional Identity by Necessity" in "Out of Place: Restoring Identity to the region landscape." New York: Yale University Press, 1990.

Jackson, John Brinckerhoff. Discovering the Vernacular Landscape, New Haven and London: Yale University Press, 1984.

Jomah, Hesam The Earth As A Mosque. Unpublished Dissertation, University of Pennsylvania, Philadelphia, 1991.

Joyce Tait, Andrew Lane and Susan Carr. Practical Conservation, London: The Open University in association with the Nature Conservancy Council, 1988.

Faegri, Knut. "Preface" in Birks, Hilary H., Birks, H. J. B., Kaland, Oeter Emil and Moe Dagfinn (ed). The Cultural Landscape Past, Present and Future, Cambridge: Cambridge University Press, 1988.

Landscape Research Group. Landscape Assessment, Landscape Research Extra, No 4, Spring, 1990, p. 10.

Laurie, Ian C.. "Aesthetic Factors in Visual Evaluation", in Landscape Assessment: Values, Perception, and Resources, Edited by Ervin H. Zube, Robert O. Brush, and Julius Gy. Fabos, Stroudsburg, Pennsylvania: Dowden, Hutchinson and Ross, Inc., 1975.

Laurie, Michael. An Introduction to Landscape Architecture, New York and London: American Elsevier Publising Company, Inc., 1975.

Llewellyn, Othman. Sharî ' ah-Values Pertaining to Landscape Planning and Design, Philadelphia: University of Pennsylvania, (n.d.).

Massari, Patricia and Cherbel Dagher. Najran, Paris: Scorpio, 1983.

Mauger, Thierry. Flowered Men and Green Slopes of Arabia., Paris-France: Souffles, 1988.

----------. The Bedouins of Arabia, Paris-France: Souffles, 1987.

Mcharg, Ian. Design With Nature, Garden City, New York: Doubleday/Natural History Press, 1969.

Meinig, D. W. (ed). The Interpretation of Ordinary Landscapes, New York and Oxford: Oxford University Press, 1979.

Melnick, Robert Z.. Capturing the Cultural Landscape, Landscape Architecture, January 71, 1981, p. 56-60.

----------. Cultural Landscapes: Rural Historic Districts in the National Park System, Washington: National Technical Information Service, 1984.

Migahid, A.M. Flora of Saudi Arabia, Riyadh, Saudi Arabia: Riyadh University Press, 1978, Vol. I & II.

Ministry of Information.The Tourist guide of 'Asir area, (Arabic), Kingdom of Saudi Arabia: Al-Abaikan Co. for printing and publishing (n.d.).

National Commission for Wildlife Conservation and Development (NCWCD). Proceedings of workshop I on the Ecological Imperatives for Sustainable Development in the Kingdom of Saudi Arabia. Ministry of Agriculture and Water Metrological and Environment Protection Agency, 27-28 July 1989.

Philby, John H. Arabian Highlands, Ithaca, New York: Cornell University Press, 1952.

Relph Edward. The Modern Urban Landscape, London: Croom Helm, 1987.

Schuyler, David. The New Urban Landscape, Baltimore: Johns Hopkins University Press, 1986.

Shaker, Mahmood. Arabian Pennesula ('Asir), (Arabic), Third Edition, Beruit: The Islamic office, 1981.

Taylor, Ken. Conservation and Interpretation Study of the Rural Heritage Landscape of the Lanyon-Lambrigg Area, ACT., Canberra CAE. (n.d.).

The Emarah of 'Asir. Emarat 'Asir Region in Ten Years, (Arabic), from 1970 to 1980, Abha: 'Asir Press, (n.d.).

The Lake District Upland Management Experiment. (Countryside Commission: UK, 1969-1976.

Wager, Jonathan F., Conservation of Historic Landscapes in the Park District National Park, Peak Park Board: UK, 1976.

Yoness, Siad Ahmed. Lamahat min Tareegh 'Asir Alkhadeem, (Arabic), Abha: Abha Literature Society, 1982.